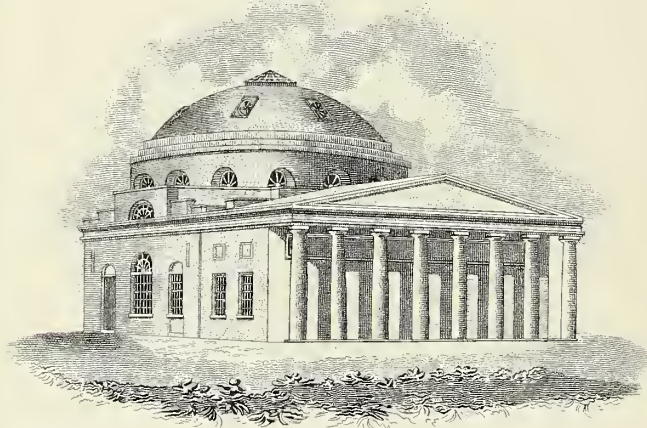


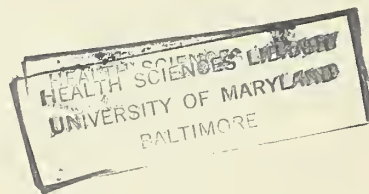


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# THE JOURNAL OF THE KANSAS MEDICAL SOCIETY

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# THE JOURNAL

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No. 1

### PARTIAL GASTRECTOMY IN THE TREATMENT OF GASTRIC ULCER AND CANCER\*

W. M. MILLS, M.D.

Topeka, Kansas

My purpose in presenting this subject is simply to call attention to the difficulties of making a definite diagnosis in ulcerating lesions of the stomach, and to give some experiences in the removal of a portion of the stomach in the treatment of these lesions.

Over two per cent of all deaths are caused by cancer of the stomach, so it is an organ particularly susceptible to malignancy. Sixty per cent of all cancers affect the stomach, breast or uterus, and of this group nearly half occur in the stomach. In this great group of cancer of the stomach, half will be inoperable when seen by the surgeon, and the other half will be subjected to exploratory operation. Of this latter group about one third will be suitable for resection, so only a fraction of the whole number will be given a chance for a cure. Cancer of the stomach untreated is always fatal, and surgery is the only means that so far has effected cures. Balfour reports 128 ten-year cures on patients operated between 1910 and 1920, which is twenty per cent of the cases subjected to gastrectomy.

When the growth lies on the upper part of the lesser curvature or in the fundus, removal may be impossible due to the fact that the region is not easily accessible to the surgeon. Growths on the greater curvature, even if high up, are more easily removed, and give a better prospect of cure. The unfortunate feature of the pyloric antrum growth is that lymphatic extension occurs early here. Cancer of the body of the stomach is most favorable for complete cure, due to easy removal of lymphatics and a lower surgical mortality. Ulcers in the pre-

pyloric region and on the greater curvature should be regarded with the greatest concern since cancer is most common in those locations.

Delays in diagnosis frequently are due to the nature of the disease as much as to the physician who sees the case. In a given group the average age will be fifty-two years, dyspepsia will have existed at least a year, sixteen per cent will have had bleeding, there will be a moderate anemia, over ninety per cent will have some loss of weight, and gastric analysis will surprise most of us, for fifty per cent of the operable cases will have nearly the normal amount of free hydrochloric acid in the gastric contents. Symptoms may be lacking or unnoticed in the early stages of the disease. It is absolutely necessary for these patients to be examined not once but several times by a good clinician and competent roentgenologist if a diagnosis can not be made at the first examination. We have all seen the type of case that has no previous gastric history, very little distress and yet may have an advanced carcinoma. These are cases of primary carcinoma.

When we consider the known relationship between gastric ulcer and gastric cancer, we have another approach to this problem. Pauchet reported finding carcinoma in fifteen per cent of 200 gastrectomies performed for ulcer, while Stewart and Chamberline each had fifteen per cent in a similar series. Wilensky and Thalheimer found that of stomach specimens received from operating room with a diagnosis of simple ulcer, 18.7 per cent were cancerous. A life insurance actuary has shown that the late mortality following similar operations is three times greater in stomach cases than in duodenal ulcers. In fact it is often impossible to distinguish a benign callous ulcer from carcinoma at the time of operation, and at times even microscopic examination does not do this. This is illustrated by cases I and III.

\* Presented at the Ford County Medical Society, April Meeting, 1935.



The real problem is how the early ulcerating carcinoma of the stomach can be satisfactorily differentiated from a benign chronic ulcer by the physician. Every ulcerating lesion of stomach will have to be considered a potential malignancy until some more accurate means are available to differentiate the malignant lesion at a time when it can be removed successfully.

Medical authors should avoid such inclusive terms as "peptic ulcer," "gastro-duodenal ulcer," and also combined statistics on results, but rather should name the anatomical location of the lesion, as duodenal or gastric ulcer. The potentialities of the two toward secondary malignancy are absolutely different. Primary carcinoma of the duodenum is rare; carcinoma secondary to ulcer practically does not exist. Duodenal ulcer is primarily a medical disease and the indications for surgery are generally agreed upon, although there is still some difference of opinion in regard to the value of gastrectomy here. Gastric ulcer should be surgically removed in all cases that do not give an immediate and continuous response to treatment. It is quite possible for early ulcerating carcinoma to give a satisfactory but temporary symptomatic response to medical treatment. Hence a delay occurs which may be a serious detriment to the chance of successful surgery.

Dr. L. H. Landon in an article in the *Annals of Surgery*, says, "There is a certain group of ulcer cases in which we feel that one is justified in recommending a definitely limited, meticulously controlled trial of medical treatment. This is largely dependent upon the type and duration of symptoms and upon the site of the lesion. The longer the previous duration of typical symptoms, and the farther the ulcer from the pylorus, the safer is the advice. When closer to the pyloric ring, with but recent symptoms, and especially if accompanied by lowered acidity, regardless of the presence or absence of occult blood, the more hazardous becomes the delay in surgical exploration. The justification for the delay must depend upon the results obtained within a strictly limited period. If within two months there has not been a definite diminution of the size of the ulcer niche clearly demonstrable by x-ray, and the disappearance of occult blood by gastric analysis, medicine can no longer conscientiously assume the entire responsibility for the safety of the patient."

Patients who have not improved during the period of observation outlined above, should undoubtedly be subjected to surgery. Cases that improve should be watched for a year, and if there is recurrence of symptoms, enlargement of the ulcer, a return of occult blood, or a progressive low gastric acidity, the patient should be explored.

Regardless of any argument as to the relationship of ulcer to cancer, it has been demonstrated by Dr. Frank Lahey that gastric ulcers respond more readily to medical treatment than duodenal ulcers, and we are justified in assuming a lesion as potentially malignant that fails to improve under appropriate treatment. We are indebted to the Lahey Clinic for advocating and popularizing the test of malignancy by the trial of medical treatment.

We are reporting, with the end results, some cases on whom gastrectomy has been performed. The total mortality is high (two out of ten cases, or twenty per cent,) but we feel that no other operation was adequate to cure the conditions present, and that increased experience may lessen that mortality. It is noticeable that there is a higher post-operative morbidity and mortality in the cancer cases as compared to the benign ulcer group.

#### CASE REPORTS

Case 1. O. H. S. Sale, age sixty. Operation August 13, 1923. Operative Findings: A large perforating ulcer on the posterior wall of the stomach in its middle third, closed only by the adhesions to the posterior wall of the lesser sac. Operation: Partial gastrectomy, lower two-thirds of stomach, Billroth II. Pathological Report: Benign ulcer. Post Operative Course: Uneventful convalescence in the hospital. For about ten months he did very well, gaining some weight, doing his work on a farm, and eating a general diet. His only difficulty was vomiting from overeating, and was easily corrected by eating smaller meals. In July 1924 he began to go down hill, vomited frequently, and in September 1924 had some abdominal pain associated with difficulty in moving his bowels. This was at first relieved by enemas, but finally went on to a complete obstruction, for which a colostomy was done on October 11, 1924. Exploration at this time revealed widespread cancer.

Case 2. C. A. J. Male, age sixty-five. Operation July 21, 1924. Operative Findings: Obstructing carcinoma at pylorus. Operation:

Billroth II partial gastrectomy. Pathological Report: Carcinoma of stomach. Post Operative Course: Did well until fifth post-operative day, when he suddenly became weak, vomited small quantities, and died eighteen hours later. Autopsy was refused. Cause of death was probably embolism.

Case 3. J. P. G. Male age fifty-nine. Operation November 29, 1926. Operative Findings: Callous ulcer on upper anterior aspect of pylorus; some enlarged lymph nodes; duodenum normal. Operation: Partial gastrectomy, Billroth I, with posterior gastrojejunostomy; appendectomy. Pathological Report: Benign ulcer. Post-Operative Course: Uneventful convalescence except for superficial wound infection. When seen six months later, he had gained four pounds, but there was apparently a rectal shelf forming. He got along fairly well, and was able to work for five years, when he developed symptoms of general carcinomatosis. He died in 1933 with extensive skeletal metastases in the pelvis, femurs, and arm bones.

Case 4. W. W. L. Male age fifty-three. Operation November 11, 1929. Operative Findings: Anterior and posterior kissing ulcers in prepyloric area of stomach, the posterior ulcer having perforated into the pancreas. Operation: Partial Gastrectomy, Billroth II, resecting three inches of stomach, including pyloric ring. Pathological Report: Benign ulcer. Post Operative Course: Uneventful convalescence. Had gained twenty pounds in two months. No gastric distress. In 1934 he was feeling well, and had worked steadily since operation.

Case 5. E. H. P. Male, age fifty-four. Operation March 11, 1930. Operative Findings: Gastric ulcer on posterior wall near the pylorus perforating into the pancreas. Operation: Partial gastrectomy, Billroth II, lower one-third of stomach. Pathological Report: Benign ulcer. Post-Operative Course: Uneventful post-operative convalescence in hospital. He had gained eighteen pounds in the next two months. In 1932 he was reported by his local doctor to be in excellent health. In 1935 he had a gastric hemorrhage from which he recovered under medical treatment. Gastrointestinal x-ray at this time showed no evidence of ulcer.

Case 6. C. D. I. Male, age forty-nine. Operation November 18, 1933. Operative Findings: Scar at pylorus with deformity.

About two inches above the pylorus, on the lesser curvature, was a chronic ulcer with crater 1 cm. in diameter. Operation: Partial gastrectomy, Billroth II, lower three inches of stomach, including pyloric ring. Pathological Report: Benign ulcer. Post-Operative Course: Had parotitis, and mild wound infection but left the hospital in good condition. Six months later he was eating any foods he desired, with no distress or vomiting. He had gained thirty pounds weight.

Case 7. A. S. Female, age sixty-seven. Operation March 17, 1934. Operative Findings: Fungating carcinoma, about two by three inches, on greater curvature, a short distance above pylorus. Operation: Billroth II, partial gastrectomy, removing two-thirds of stomach. Pathological Report: Carcinoma of stomach. Post Operative Course: Began vomiting on the second day post-operatively, and continued to vomit everything she took by mouth. She was kept on intravenous fluids. As there was no improvement by the ninth day, the abdomen was explored under local anesthesia. No mechanical obstruction was found, but there was a peritonitis throughout the upper abdomen. She continued to vomit, and an enterostomy was done a few days later. This drained watery fluid at first, then more fecal material, and finally a fluid that was digesting the wound edges. On the thirteenth day she developed a left sided parotitis, which subsided spontaneously after about ten days. She was carried on intravenous fluids until April 13, her twenty-seventh p.o. day, when she first began to retain anything and to improve slightly. She was given a transfusion on April 19, but soon afterwards began to slip, and rapidly went down hill, and died on her thirty-eighth post-operative day. Autopsy revealed peritonitis, nephritis, and fatty degeneration of the liver as cause of death. There was no gross or microscopic evidence of cancer in the remainder of the stomach or other organs.

Case 8. L. B. Male, age sixty-eight. Operation June 7, 1934. Operative Findings: Fungating carcinoma at pylorus, about two inches in diameter, and almost completely obstructing the pyloric opening. Operation: Partial gastrectomy, Billroth II, distal one-half stomach. Pathological Report: Carcinoma of stomach. Post-Operative Course: Convalescence was completed only by a right sided parotitis, which did not require drainage. On March 29, 1935 he had gained thirty pounds



weight, was eating well, and getting along on three meals a day. His only distress was when he would eat too much. He vomited occasionally, when "bile backs up into his stomach." He felt well, and examination was negative for any recurrence. His local physician reported him as being well early in December, 1935.

Case 9. R. M. Male, age sixty-six. Operation August 20, 1935. Operative Findings: Carcinomatous growth of lower two and one-half inches of stomach, ending abruptly at the pylorus. The growth completely encircled the wall, except at the lesser curvature. There was one small nodule near the medial fissure of the liver which may have been a metastasis. Operation: Billroth I partial gastrectomy, lower one-third of stomach. Pathological Report: Adeno-carcinoma of stomach, grade IV. Post Operative Course: Convalescence was complicated by bronchitis, and some vomiting which was relieved by gastric lavage. Three months after discharge he felt well and had gained twelve pounds weight.

Case 10. W. T. B. Male, age seventy-one. Operation November 16, 1935. Operative Findings: Ulcerating carcinoma of pylorus, encroaching on duodenum. The ulcer was nearly perforated posteriorly, causing a localized peritonitis. Operation: Partial gastrectomy and duodenectomy, Billroth II. Pathological Report: Adeno-carcinoma, grade IV. Post-Operative Course: His course was complicated by an infected wound, but he is at present making a satisfactory recovery.

#### SUMMARY

Attention is called to the difficulty of differentiating malignant and benign ulcerations of the stomach, and the value of the test of treatment. Brief reports of ten cases operated for ulcerating lesions of the stomach by gastrectomy are presented.

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—JKMS—

What is spoken of as a clinical picture is not just a photograph of a man sick in bed; it is an impressionistic painting of the patient surrounded by his home, his work, his relations, his friends, his joys, sorrows, hopes and fears.—Francis W. Peabody.

—JKMS—

He who has wealth, has hope; and he who has hope, has everything.—Arabian Proverb.

—JKMS—

Where there is love of humanity, there also is love for the art of medicine.—Hippocrates.

## CARCINOMA OF THE SKIN

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Carcinomas of the skin are generally divided into two classes, namely: 1. Basal-cell carcinoma (rodent ulcer); 2. Squamous cell carcinoma.

Occasionally a carcinoma of the skin contains both basal and squamous cells, consequently some authorities call this a third class, the basal-squamous type. Such a basal-squamous cell lesion may, at any time, change into a true squamous carcinoma.

Usually the clinical diagnosis of epithelioma of the skin is comparatively easy. Tuberculous ulcers and syphilitic lesions must be differentiated and excluded by history, examination with eye and finger, biopsy and blood serum. A biopsy is often the only means of differentiating between a basal and squamous cell carcinoma.

The basal-cell variety of skin carcinoma is the most frequently encountered. It is more common among people who lead an outdoor life, such as farmers. Skins which are harsh and dry, which have a tendency to freckle, and which do not tolerate a "tan" well are more apt to undergo malignant changes. The condition is very uncommon among Chinese and negroes.

The basal-cell carcinoma may be seen as a cutaneous nodule with ulceration, which may be superficial or deep. In some cases there may be no evidence of the tissues breaking down. In others the lesion may be a more or less smooth scar-like area with a shiny, waxy surface, and a distinct border.

This type of malignancy ordinarily develops slowly and usually does not metastasize but has a great tendency "to invade and destroy" the deeper tissues such as bone and cartilage. If not completely removed the basal-cell carcinoma shows a great tendency to recur. Histologically the basal-cell carcinoma shows a preponderance of basal-cell tissue and is made up of groups of small, closely packed cells with deep nuclear stains resembling the basal-cell layer of the skin.

The squamous-cell carcinoma is somewhat less common than the basal-cell type. Carcinoma of the lower lip, edges of nostrils, eyelids, penis, vulva and anus are practically always of the squamous cell type, and those on the trunk



and extremities, especially on the dorsum of hands, are usually of the same kind. Those found on the skin of the face are more often of the basal-cell type. Keratoses are often considered as precancerous lesions, but sometimes they no doubt are malignant from the very beginning. "It is believed that the senile keratosis is a forerunner of the squamous cell carcinoma while the seborrheic keratosis, if it becomes malignant, usually develops into a basal-cell carcinoma." (Ericksen and Stenstrom.) The squamous cell carcinoma indurates and ulcerates and metastasizes relatively early; therefore the prognosis and treatment are less favorable than with the basal-cell lesion.

Histologically the squamous-cell epithelioma is characterized by groups of epithelial cells, growing in a diffuse and infiltrating manner with formation of pearls. The growth is indefinitely separated from the normal tissue; cells grow out irregularly at various points pushing their way into the surrounding normal tissue.

The prognosis of any skin carcinoma "depends on the histology of the tumor, the extent of the growth, the character of the stroma, the amount and nature of previous therapy, the location of the tumor and the constitution of the patient." In other words the prognosis depends largely upon the stage of the lesion at which proper treatment is begun.

#### TREATMENT

In the Hall of Science at the Century of Progress in Chicago in 1933, the American Society for the Control of Cancer had a very interesting as well as practical exhibit on cancer, in which, among other things, it told the public that the only satisfactory treatment of cancer was x-ray, radium or surgery, or a combination of any two or all three methods. The importance of early diagnosis was also emphasized. The above statement is true in regard to treatment of cancer as a whole. Skin cancer may also be treated by means of x-ray, radium or surgery (including electric cautery and electrocoagulation), or a combination of two or three methods. However, irradiation is easily applied, more effective, and has better cosmetic results than surgery. Although cosmetic effect is only a secondary matter, it should be given due consideration when possible because most of these lesions are in or about the face. In regard to irradiation there is probably very little difference between the results of roentgen rays and radium. The

selection of one or the other is largely a matter of convenience, except in extensive lesions, especially in case of metastases, x-ray can cover a larger area more easily. However, because areas covered in treatment of skin cancer are usually not extensive but small, the use of radium is more convenient and practical and is more accurately controlled. Its application may be made to a very small lesion as well as to a larger one. Locations about the eyes and nose may be inaccessible with the roentgen ray where radium may be applied easily. Radium may be applied to the skin lesion without any discomfort to the patient whatever. However, no one method of treatment should be considered as a routine; the means should be varied to meet the condition.

I have employed radium more often in the treatment of carcinoma of the skin than the other above mentioned methods and in my experience it has proved very satisfactory. In order that radium treatment of skin cancer be successful, the application or applications must be adequate to destroy the lesion completely with the least interference with the surrounding normal tissue. Inadequate treatment is often worse than useless because it increases the resistance to further treatment. The importance of adequate dosage early in the treatment is to be emphasized. "The fundamental principle is to estimate the dose sufficient to bring about the death of all the malignant cells without impairing the vitality of the surrounding normal tissue, so that healing may take place satisfactorily." (Roy Ward.) Acute infectious lesions are a definite contraindication to radium treatment. In such instances the acute stage of the infection should be allowed to subside before the radium treatment is instituted.

The effectiveness of the treatment depends upon the nature of the tissue treated, the amount of radium and, screening or filter used, distance between radium and the tissue, and the length of time that it is applied. The squamous-cell growth requires a heavier and more penetrating radiation than the basal-cell type.

Following are a few brief case reports as examples of several common locations of skin cancer.

#### CASE 1

J. W. was first seen in January, 1931, giving the following history. For the previous two years the patient had noticed a hard growth on the left side of the lower lip, beginning as a small wart-like lesion at the muco-cutaneous



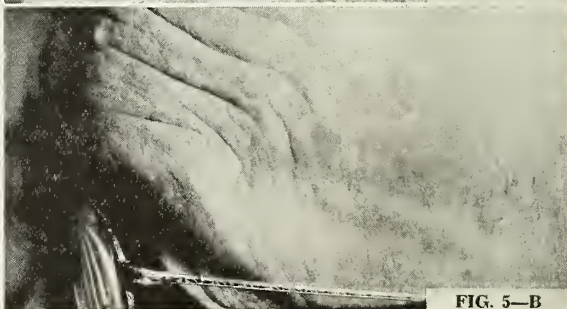
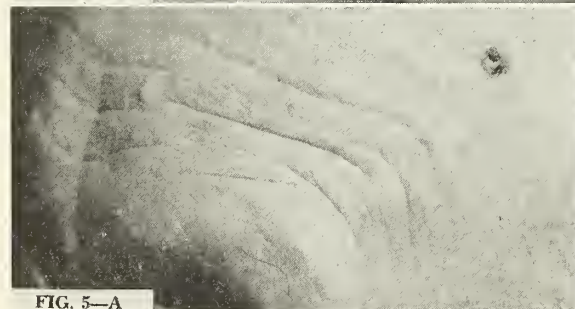
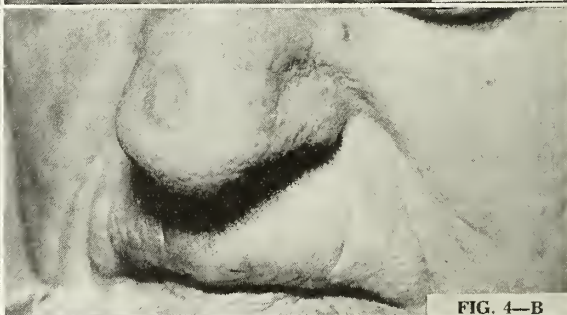
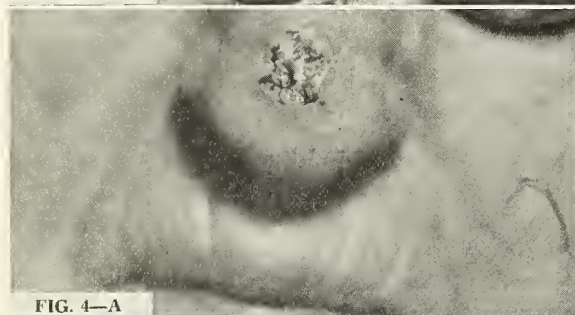
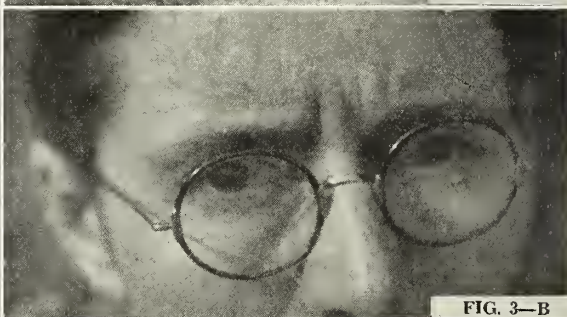
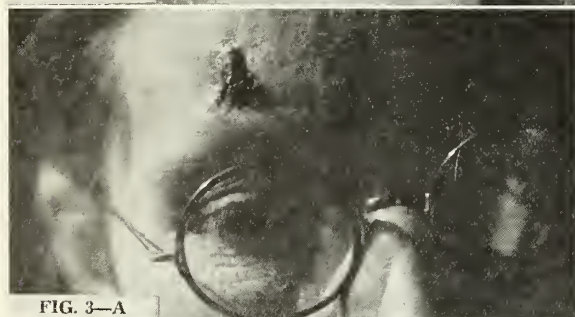
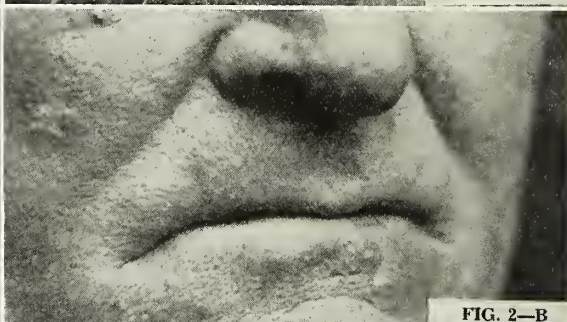
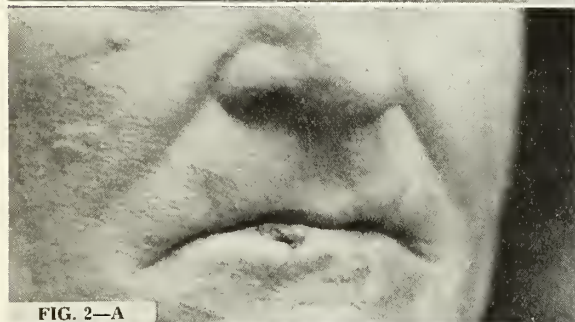
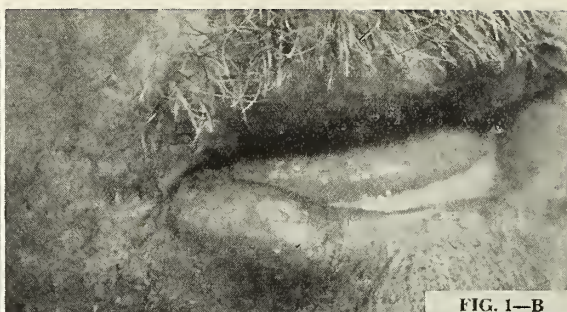


Fig. 1-A, 2-A, 3-A, 4-A, and 5-A before Treatment.

Fig. 1-B, 2-B, 3-B, 4-B, and 5-B after Treatment.



junction, and gradually increasing in size and extent until at that time the lesion involved all of the left half and part of the right side of the lower lip. The edges were very much indurated and the surface about four centimeters by two centimeters. Snagged lower teeth were irritating the lesion. There was no apparent enlargement of the glands of the neck.

The teeth were removed by the dentist. He was given several applications of radium to the lower lip and the neck, totaling 2,558 millicuries. A biopsy was reported squamous cell carcinoma. This patient also had a four plus blood Wassermann and was given antiluetic treatment at the same time. After the lesion had decreased considerably in size, there was still considerable sloughing and ulceration, and it was thought best to remove this tissue with the electric cautery. The cauterized surface healed satisfactorily. The patient had a very good functional result and his lower lip remained healed. He was in good physical condition without evidence of recurrence or metastasis up to two years later when he died of accidental death.

#### CASE 2

G. P. had a lesion of the left lower lip removed surgically ten years ago. At this time the scar looked good and showed no evidence of recurrence. About three and a half years ago he had an ulcerating lesion on the right lower lip which had started about nine months before. At intervals it had shown a tendency toward healing but never did heal. This lesion was treated with radium, healed very satisfactorily, and has remained well healed after a period of three and a half years.

#### CASE 3

Mrs. J. A. B. was seen with an irregular lesion on the right forehead beginning ten years before. During these ten years it had been treated at various times with electric needles and lamps, showing tendency toward healing intermittently but never healing completely. One radium application healed this lesion satisfactorily, and it has remained well for four years.

#### CASE 4

J. S. states that the lesion on the tip of his nose began five years ago as a little pimple but was not red or tender. It gradually increased in size, the surface scaling and scabbing and later ulcerating. Two applications of radium have

cleared up the lesion, leaving a well healed scar.

#### CASE 5

D. G. stated that a small lesion on the left frontal region of the scalp began as a small rough and scaly area eight months before. At the time the patient presented himself it was about half a centimeter in diameter. He said that the lesion would scab and scale off, appeared as though it were going to heal, but became worse again until it had a crusting scab with an ulcerating base. The photograph shows the well healed surface with minimum scarring.

This stage is an opportune time to treat these lesions, requiring only a small amount of treatment and resulting in a minimal scarring with very satisfactory cosmetic appearances and always one hundred per cent cure if such lesions are treated early. It is well to remember that cancer always begins in a small way. The success of treatment of skin carcinoma no doubt is due to the advantage that the lesion is on the surface where it may be readily detected by the patient. It is therefore usually brought to the attention of the physician, usually the family physician, in time to be cured. It is equally important that the physician recognize such growth and advise treatment early at which time practically a hundred per cent cure may be affected. Early diagnosis and proper treatment will cure cancer.

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—JKMS—

Physicians, when the cause of disease is discovered, consider that the cure is discovered.—*Cicero*.

—JKMS—

Nature always hangs out a little flag, which when seen and understood points to the diagnosis.—*J. B. DeLee*.

## AN AORTIC ARCH WITH ANOMALOUS BRANCHES

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Anomalous arteries are interesting to the anatomist as illustrating a persistent fetal condition, or an unusual development due to unusual size or connections. An unusual condition in man sometimes illustrates the normal condition found in some of the lower animals. To the surgeon, some of these anomalies are important in various surgical procedures. The anomaly here described is, we believe, interesting to both groups. It has been found previously but it is rare and we believe that this case is worthy of record. According to the excellent study of the earliest descriptions of an anomalous right subclavian artery by Holzapfel ('99), the first description of a human aortic arch with three branches similar to the case here reported was by Hunauld in 1735. In this case described by Hunauld, the anomalous right subclavian artery passed in front of the trachea and esophagus instead of between the esophagus and the vertebral column as in our specimen. The earliest case in which an anomalous right subclavian artery was recorded as passing between the esophagus and the vertebrae was by Böhmer in 1741. In this case, however, the aortic arch had four branches, namely a right common carotid, left common carotid, left subclavian and the anomalous right subclavian. Holzapfel found but six cases in the literature with the anomalous right subclavian artery passing in front of the trachea and esophagus, while in eighty per cent of all cases the anomalous right subclavian passed between the esophagus and the vertebral column as it was found in the present cadaver. Poynter ('16) gives a good bibliography of the various anomalous branchings of the human aortic arch and no attempt will be made in this report to list all of the cases.

The cadaver in which this unusual branching was found was that of a white male about seventy years of age. He died in a county hospital in this state and nothing is known about him except his name and the fact that he had been a gardner. The exact date of his birth is not known. The body was in good condition and upon arrival in our department it was

given the usual treatment of further embalming, following which it was stored in our tanks for about fifteen months.

The cadaver was put on the laboratory table in September 1934 for dissection by freshman medical students. In the dissection of this body nothing unusual was observed, except the anomalous branching of the aortic arch, and two pathological kidneys. The heart and aortic arch were normal in size, position and relations, except for the branches. The upper border of the arch reached the level of the lower part of the body of the third thoracic vertebra.

The branching of this aortic arch conforms to the description of type H in the recent paper by Williams and Edmonds ('34.) The accompanying figure shows an anterior view of this aortic arch and its three rami. The first ramus was a bicarotid artery eighteen mm. in lateral diameter and a little less antero-posteriorly. It ascended for thirteen mm. and then divided into two normal common carotid arteries. The left common carotid artery was eight mm. in diameter and the right seven mm. in diameter. All of the branches of the aorta had normal branching, and so none of these rami are shown in the figure. Immediately to the left of the bicarotid artery, a normal left subclavian artery was given off from the arch, and this was the only normal branch from this aortic arch. This left subclavian artery had a diameter of fourteen mm. close to its origin from the arch and eleven mm. just before it gave rise to the vertebral artery. To the left of the left subclavian artery and from the posterosuperior side of the aortic arch, the anomalous right subclavian artery arose. The aortic arch had a superior inferior diameter of thirty-six mm. From the inferior border of the anomalous right subclavian at its origin from the arch, to the inferior border of the arch was but thirteen mm. Thus the origin of this right subclavian occupied more than half of the posterior surface of the aortic arch, as it extended to within two millimeters of the superior border of the aorta. After leaving the aorta, this anomalous right subclavian artery, passed from the left side, posterior to both the trachea and the esophagus, obliquely upward and to the right side of the esophagus. After reaching the right side of the esophagus, it ascended for some distance and then turned to the right, and after reaching a point opposite the

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medial end of the clavicle it passed between the scalene muscles in a normal manner. From this point on, its course, relations and rami were all normal. As it passed posterior to the esophagus, it was wrapped around both the trachea and the esophagus so closely that it slightly constricted the esophagus, and the trachea was slightly deflected to the right side.



Fig. 1. Anterior view of aortic arch and rami from a seventy year old white male cadaver. Branches from arch in order from the left in picture are; bicarotid, dividing into two normal common carotids, normal left subclavian artery and anomalous right subclavian. The right subclavian passes between esophagus and bodies of vertebrae to reach the right side.

The vertebral arteries, which are often abnormal in their origins in this type of arch, were normal in origin and course to the sixth costotransverse foramina. The course of the right recurrent laryngeal nerve was unusual for it went directly to the larynx, passing superior to the right subclavian artery rather than passing around it as is its normal course.

Williams and Edmonds ('34) found this type of arch occurring in 0.5 per cent in white and in 1.4 per cent of the negro cadavers, and more frequently in female than in male cadavers. They did not find this anomaly in a white male, although Poynter ('16) has reported a case found in a white male cadaver. This is the first case of this type seen by the senior author in over 400 cadavers dissected here at the University of Kansas.

This is one of the anomalies which is best explained by its embryological development, or as the persistence of a part of the fetal circulation which normally disappears and the disappearance of another part which normally persists and forms a part of the normal adult circulation. The circulation in the early embryo, it will be remembered, is like that found in a fish, with the primitive aortic stem

giving off a series of branchial arches. These are collected on the dorsal side of the pharynx by a right and a left dorsal aorta which unite caudad to the branchial region into the one thoracic aorta. This unusual right subclavian, which passed posterior to the trachea and esophagus is explained by the persistence of the inferior part of the right dorsal aorta, and the obliteration of the fourth branchial arch which normally forms the proximal end of the normal right subclavian artery. While this is a very striking anomaly and also a rare type, it may be rather easily explained, except, of course, as to why the fourth branchial artery, which normally persists should disappear, and the right dorsal aorta which usually disappears should persist in the adult.

The relations of this vessel and the posterior surface of the esophagus are important. Normally the posterior surface of the esophagus is separated from the anterior surface of the bodies of the cervical vertebrae only by the prevertebral fascia. In this case the passage of the right subclavian artery made a definite constriction in the esophagus. This of course probably was no hindrance in swallowing but it certainly would have been evident in esophagoscopy. Tucker ('32) describes a case of perforation of a normal aorta by an open safety pin. With this added constriction in the posterior wall of the esophagus there is an added element of danger in the case of foreign bodies in the esophagus and also in their removal.

Since the completion of this report two additional cases of anomalous right subclavian arteries have come to my attention. Dr. W. M. Mills has just informed me that he found a similar anomaly in a white male of rather advanced age in the Anatomy Department of the Kansas Medical College in 1911. The second case has just been found in our laboratory in one of the cadavers now being dissected. The cadaver is that of a male Mexican about thirty-five years of age. Nothing is known about this man who died of a fractured skull. The aortic arches in both of these cases have four rami, unlike the one described above. In both of these the two common carotid arteries come off separately from the arch. In other respects they are like the one reported above. The aortic arch in the cadaver which is now being dissected is shifted somewhat more to the left and the trachea and esophagus are correspondingly pushed to the right more than in the case described in this report. It is interesting that



after all these years the only two cases of this type seen by the senior author should come in two consecutive years.

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#### THE BLOOD CLOT CULTURE AS AN ADJUNCT TO THE WIDAL TEST\*

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While the number of cases of typhoid fever occurring annually in the State of Kansas has been materially reduced in recent years, the incidence of the disease is still large enough to command the serious consideration of both health officials and the medical profession. There were 282 cases of typhoid fever reported to the Kansas State Board of Health in 1933. 296 cases in 1934 and 281 cases had been reported prior to November 18, 1935. Two food borne outbreaks occurred in the western part of the state in 1935, which were due to the preparation of food in a restaurant and a hotel, by typhoid carriers. One of these food borne outbreaks consisted of twelve cases and the other numbered eight cases. Nine cases of typhoid fever occurred in two families in Sumner County as a result of using unsafe water and five cases of the disease with one death resulted from the use of a contaminated spring in Chase County by a surveying party of six men from the Kansas State Highway Commission.

The best efforts of health officials in improving sanitary conditions and extensive typhoid immunization are essential to the con-

trol of typhoid fever, but any immediate reduction in the incidence of typhoid fever in the State of Kansas appears to depend upon earlier diagnosis and prompt reports to health officers by practicing physicians. Early diagnosis is of importance, not only for the prevention of secondary cases among those who come in contact with the case but more especially for the early location and elimination of the original source of infection. This latter point is well illustrated by one of the food borne outbreaks which occurred in the western part of the state this year. The Widal reaction was absent in tests made by an out-of-state laboratory on specimens from the first cases in this outbreak. As a consequence, the suggestive physical findings were ignored and the cases were not considered typhoid fever. This not only resulted in the outbreak reaching unnecessarily large proportions, but also permitted the person, who is believed to have been the carrier responsible for the outbreak, to leave the state before control measures were instituted. The laboratory that made the Widal tests on the first cases in this outbreak may not have been at fault, as will be shown later in this report.

Because of the indefinite character of the early symptoms of typhoid fever, laboratory aids in diagnosis assume considerable importance. As a consequence, there is an unfortunate tendency on the part of an all-too-large group of physicians to base the diagnosis of typhoid fever solely on the Widal test (a test which is of no value until the disease is well advanced) to the exclusion of physical findings and histories. Better and earlier diagnosis of typhoid fever carries a responsibility both for the physician and the laboratory. For the physician: Due regard for physical findings and histories, plus a knowledge of the characteristics of the different tests for typhoid fever and their efficiency at different stages of the disease, which will enable him to intelligently select the test which will give the most accurate result in a suspected case, regardless of the possible stage of the disease in which the case comes under his observation. For the laboratory: The development of refinements in technique which will increase both the speed and the accuracy of the work done.

A brief outline of the course of events in a typhoid infection offers some information as to what may be expected of different types of laboratory tests, at different stages of the dis-

\*A modification of a report presented to the Kansas State Board of Health at their Quarterly Meeting, held in Topeka, September 11, 1935.

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ease. This summary is drawn largely from the excellent discussion of the subject by Topley and Wilson.<sup>1</sup> The typhoid bacillus enters the body through the alimentary tract in water, food, milk, or by means of contaminated fingers, and it seems probable that the greater part of the ingested organisms are destroyed in the intestines.

Surviving typhoid bacilli invade the tissues of the body by way of the intestinal lymphatics and this invasion is followed by a transitory bacteremia, during which the organisms establish themselves in the liver and spleen. The organisms then disappear from the blood stream while those in the liver and spleen multiply rapidly. A secondary bacteremia next develops, which marks the onset of the illness, and there is a general distribution of the organisms throughout the tissues of the body. The extensive distribution of typhoid bacilli throughout the body and in the blood stream stimulates the defensive mechanisms of the body to produce typhoid antibodies, which usually make their appearance in from seven to fourteen days after the onset of the illness. As antibodies develop, the typhoid bacilli gradually disappear from the blood stream. Following the secondary bacteremia, secondary invasion of the intestines occurs, the majority of organisms coming from the gall-bladder. A considerable proportion of typhoid cases continue to excrete typhoid bacilli after blood cultures can no longer be obtained while some cases continue to excrete the organisms well into convalescence or beyond it.

The accompanying chart shows the probability of obtaining definite results with the blood culture, the Widal (agglutination) test and stool culture at different stages of the disease and the figures given serve to confirm the outline of the course of events during a typhoid infection, given above. In considering this chart, it should be remembered that these are frequency curves and do not represent the course of events in an individual case, and that individual cases may vary considerably from the figures given.

#### THE WIDAL (AGGLUTINATION) TEST

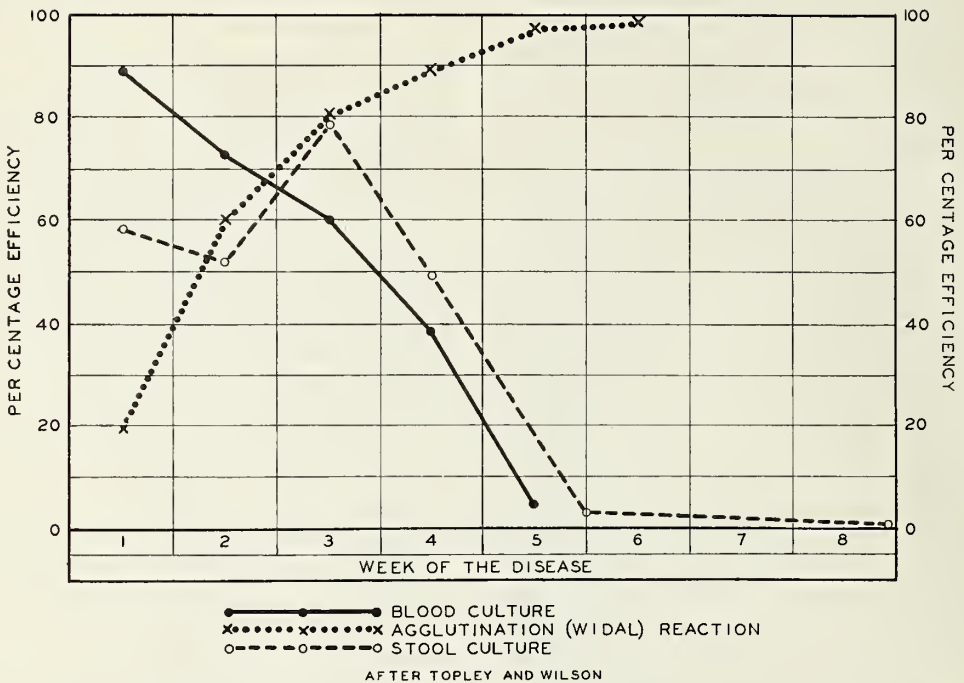
While the Widal is the test most commonly employed as an aid in the diagnosis of typhoid fever, either through force of habit or because of ease in collecting and submitting specimens, it has a number of faults and most certainly does not merit the implicit confidence some-

times placed in it. It is of no value as an aid in early diagnosis, since the reaction is not usually obtained until the seventh to fourteenth day of the disease. Many cases of typhoid fever do not give a Widal reaction until the third or fourth week of illness and about two per cent of cases never give a Widal reaction at any stage of the disease. In view of these facts, it would not appear that there is any justification for ignoring suggestive physical findings and dogmatically excluding the possibility of typhoid fever on the basis of failure to obtain a Widal reaction. Neither is the presence of a Widal reaction conclusive evidence of a typhoid infection, since false and nonspecific reactions occasionally occur. The first thing to be considered in interpreting a Widal reaction is the titer of the reaction. A reaction of 1:20 or 1:40 may be due to a typhoid infection in which the specimen was collected too early in the course of the disease for a strong, definite reaction to be obtained. On the other hand, a reaction titer of 1:40 may be caused by some other febrile condition and be of a transitory nature. When a 1:20 or 1:40 reaction is obtained, additional specimens should be submitted and unless the titer of the reaction in successive tests goes up rapidly, the results of the test should be ignored. The interpretation of the results of the Widal test, which is carried on the back of the report blank used by The Public Health Laboratory states that only titers of 1:80, 1:160 or higher are of value as an aid in diagnosis, yet instances have occurred during the past typhoid season in which this advice has been ignored and a diagnosis of typhoid fever has been based solely on a Widal reaction having a titer of 1:40, without the support of physical findings.

The administration of typhoid vaccine will cause a Widal reaction which may persist, in some instances, for as long as three years after immunization. Special antigens have been used experimentally which seem to differentiate, with a fair degree of accuracy, between Widal reactions due to immunization with typhoid vaccine and those due to typhoid infections and, in all probability, such antigens will be put into routine use by the Public Health Laboratory in the course of the next few months. Certain cases of undulant fever will also cause Widal reactions, which have been variously termed cross agglutinations and anamnestic reactions, when no typhoid infection exists. In such cases, an undulant fever ag-



## LABORATORY TESTS FOR TYPHOID FEVER EFFICIENCY AT DIFFERENT STAGES OF THE DISEASE



glutination, run parallel with the Widal test, will give an agglutination for undulant fever in a much higher titer than is obtained with the Widal test. There is little doubt that many of the cases of so-called "walking typhoid fever," which have occurred in the past, were, in reality, cases of undulant fever, giving a false Widal reaction on which the diagnosis was based. Because of this characteristic of undulant fever, the Public Health Laboratory runs an undulant fever agglutination on all specimens submitted for the Widal test. It is also entirely possible that there are other types of infections with which we are less familiar than we are with undulant fever which also give false Widal reactions. There appears to be no justification, therefore, for basing a diagnosis of typhoid fever solely on the Widal test, to the exclusion of physical findings, or for waiting for the Widal reaction to develop before making a diagnosis when other tests will give more reliable information much earlier in the disease.

### THE STOOL CULTURE

The stool culture has been considered of secondary importance as an aid in diagnosis, its chief use being in determining when the patient was free of infection and in the detection of

typhoid carriers. While the course of events in a typhoid infection would indicate that a high degree of efficiency is not to be expected in the early stages of typhoid fever, the probability curve shows that it is a somewhat better test in the early stages of typhoid fever than the much used Widal. Stool cultures should not be ignored in the early stages of illness, however, since bacillary dysentery infections are quite common in Kansas and these infections are best identified by stool cultures, collected as early as possible in the course of the illness.

Typhoid cases which have come to autopsy have shown almost pure cultures of the typhoid bacillus in the upper intestines, with organisms becoming less and less numerous at lower levels, until in the large bowel they may be so outnumbered by normal intestinal organisms as to escape detection by the bacteriological methods used in the past. Recent refinements in bacteriological technique, coupled with improvements in culture media have materially increased the efficiency of the stool culture. The present probability of isolating the typhoid bacillus from stool specimens, particularly in the later stages of the disease and during convalescence is, no doubt, much higher than is given in the probability curve. In view of the rather high incidence of bacillary dysentery

in the state, a stool culture might well be one of the laboratory specimens collected routinely in the early stages of all gastro-intestinal disturbances.

#### THE BLOOD CULTURE

Both theory and practice have shown that the blood culture is the procedure of choice as an aid in the early diagnosis of typhoid fever. Of first importance is the fact that the typhoid bacillus can be isolated from the blood stream of practically all cases of typhoid fever during the first few days of the illness—the time when the establishment of a definite diagnosis is of the most importance to the patient, his family or attendants and the welfare of the community. This test is not so valuable in the later stages of the disease since its reliability decreases as the disease progresses. The second point in favor of the blood culture is the fact that it gives more definite and conclusive evidence than is obtained from the Widal test since the isolation and identification of the typhoid bacillus leaves little room for doubt as to the cause of the illness. A third and most important point, so far as the prevention of the spread of typhoid fever is concerned, is the fact that typhoid bacilli can be isolated from the blood stream of mild and abortive cases of the disease, in which there might otherwise be little suspicion of a typhoid infection because of prompt recovery or atypical symptoms. Needless to say, such cases are a greater menace to the health of a community than the clinically typical case.

Older text books have so emphasized the bactericidal effect of clotted blood that it has been thought necessary in the past to put the blood specimen into liquid culture media before clotting occurred. The amount of liquid culture media required for a blood culture and the ease of contamination of such cultures has largely limited their use to well equipped hospitals. Blood cultures have therefore been neglected by physicians in home practice, even though efficient, if somewhat expensive, vacuum blood culture outfits, which can be used satisfactorily in the home, have been on the market for a number of years. The work done in a number of state health department laboratories in recent years has shown conclusively that the typhoid bacillus will remain alive in clotted blood for several days—long enough, at least, to guarantee their isolation, when shipped to the laboratory.

Sellers<sup>2</sup> has records of many instances in which the typhoid bacillus has been isolated from clotted blood specimens in his laboratory when the specimens were from forty-eight to seventy-two hours old. He also cites as an example of the efficiency of the blood clot culture, an outbreak in which clotted blood specimens were submitted from each of fourteen cases of milk borne typhoid fever, and the typhoid bacillus isolated from every specimen.

The added service of blood clot cultures, designed to assist the physician in the early diagnosis of typhoid fever and the detection of mild and abortive cases of the disease was inaugurated by the Public Health Laboratory on May 15, 1934, and gives the advantages of both the Widal test and the typhoid blood culture, with the convenience of collecting and shipping specimens which characterizes the Widal test. After the serum needed for the performance of the Widal test is removed from the specimen, the blood clot is placed in an oxbile culture medium, consisting of ten per cent dehydrated oxbile, ten per cent glycerine and two per cent peptone in distilled water. This medium dissolves the clot and at the same time inhibits the growth of practically all contaminating organisms, without interfering with the growth of the typhoid bacillus or other enteric organisms.

Between May 15, 1934 and November 1, 1935, the following results have been obtained with the combined Widal and clot culture tests:

Widal specimens examined .....	1,513
Widal reactions of a titer of 1:80 or higher .....	203
Positive clot cultures on negative Widal specimens .....	41
Positive clot cultures on specimens which were either broken in shipment or so badly hemolyzed that it was impossible to do a Widal test .....	10

In addition to the fact that the typhoid bacillus was isolated from fifty-one specimens in which no Widal reaction was obtained or on specimens on which a Widal test could not be made, the typhoid bacillus was also isolated from fifty-seven of the 203 specimens which gave a Widal reaction of 1:80 or higher. Furnishing very definite confirmation of the accuracy of the Widal reaction and ruling out any possibility of false reactions.

In the series of tests reported, the use of blood clot cultures as an adjunct to the Widal



test has increased the efficiency of the service rendered physicians in the diagnosis of typhoid fever over twenty-five per cent in addition to giving valuable confirmation of the results obtained with the Widal test in about twenty-eight per cent of the specimens giving a positive Widal reaction. Much greater efficiency will be achieved than has been reported in this summary, if specimens are collected earlier in the disease.

#### SUMMARY

1. The incidence of typhoid fever in Kansas merits the serious consideration of health authorities and the medical profession.

2. Any immediate reduction in the incidence of typhoid fever in the state depends upon earlier diagnosis and prompt reporting of cases by practicing physicians, thereby preventing contact cases and enabling health officials to locate the sources of epidemics and eliminate them before outbreaks assume serious proportions.

3. The commonly used Widal test is of no value as an aid in early diagnosis and its accuracy and efficiency is not great enough to merit the confidence frequently placed in it.

4. The blood clot culture is highly efficient as an aid in the early diagnosis of typhoid fever and clot cultures are made on all Widal specimens submitted to The Public Health Laboratory.

5. It is recommended that both a blood specimen and a stool specimen be collected as early as possible in gastro-intestinal disturbances as an aid in the early diagnosis of both typhoid fever and bacillary dysentery.

#### REFERENCES

1. Topley and Wilson, *The Principles of Bacteriology and Immunity*, Vol. II, Pgs. 980-985.
2. Sellers, T. F., *Laboratory Aids in the Diagnosis of Typhoid Fever*, *Journal of the Medical Association of Georgia*, Vol. XXIV, No. 7, July, 1935.

### SOME EXPERIMENTAL FINDINGS ON BLOOD PATHOLOGY

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I will briefly discuss some experimental work done in connection with the pathogenesis of some important blood diseases, because I consider that experimental findings may be helpful in the understanding of them.

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#### PERNICIOUS ANEMIA

In 1914, by the repeated injections of tyramine in guinea pigs, Iwao reproduced an hematic picture very similar to pernicious anemia. Dale and Dixon, repeating the experiments of Iwao in 1918, confirmed the findings of Iwao and extended their work on the physiological action of tyramine.

Tyramine, or oxyphenylethylamine, is a product of putrefaction often found in proteins with a high content of tyrosine, as, for example, caseine, and is found in meat, fermented cheese, etc. The bacillus coli has the property of transforming tyrosine into tyramine. In ergot the presence of tyramine is due to the biochemistry of *Claviceps purpurea*. As the bacillus coli and other microorganism of the intestinal flora may produce tyramine, it is very probable that the bases may be absorbed by the intestinal epithelium and pass into the blood stream, in which a toxic action may be exercised. Such toxic effects, exercised for a continued length of time, may be considered as a probable origin of pernicious anemia. The findings of the above authors already mentioned seem to confirm such hypothesis.

Five guinea pigs were injected intraperitoneally with one milligram of tyramine on alternating days for a period of two months. Five rabbits were injected intraperitoneally with two milligrams of tyramine on alternating days for a period of three months. Another group of five rabbits received, intraperitoneally, one centigram of saponin Merck on alternating days for a period of three months. The saponin is a hemolytic poison and was included in the experiments, due to the fact that in pernicious anemia an hemolytic process has been considered as the basis of the process.

During the entire course of treatment the blood of the animals was examined in order to observe pathological changes. In guinea pigs under tyramine treatment the blood showed only a moderate anisocytosis and poikilocytosis with a predominance of microcytes. No basophilic cells or megalocytes were observed during the entire course of the intoxication. The white cells showed a predominance of lymphocytes and monocytes. The bone marrow showed a rarefaction of myeloid elements, presence of erythroblasts and megakariocytes, and a number of endothelioid cells along the sinusoids. No large cells of the megaloblastic type were observed.

In rabbits under the intraperitoneal treatment, the microcytosis was more evident and a number of erythroblasts were seen in the peripheral blood. The white cells showed predominance of mononuclear elements. The bone marrow showed rarefaction of the myeloid elements, presence of erythroblasts in various degrees of maturation, and absence of cells of megaloblastic type.

In rabbits under intravenous treatment of tyramine, the above findings were more pronounced. Microcytes, basophilic red cells, and erythroblasts were present; the white cells were increased with predominance of lymphocytes and monocytes, but no cells of a megaloblastic type or megalocytes were seen. The bone marrow was hyperplastic with numerous cells of the hemocytoblastic type, erythroblasts and myelocytes, but no megaloblasts were seen. The spleen showed a very marked hyperplasia of the lymph-follicles and a diffuse proliferation of lymphoid tissue outside the follicles; the venous sinuses were congested.

In rabbits, under the saponin treatment, the blood findings were similar to those found in hemolytic processes. The microcytosis was more pronounced than in the case of tyramine, with marked poikilocytosis. The reticulocytes were not increased, probably due to the continuous toxic stimuli impeding any attempt at regeneration of the bone marrow. In fact the bone marrow appeared hemorrhagic; this color could be compared only to that of a blood clot. It revealed the presence of rare myelocytic elements and erythroblasts in every degree of maturation, from the hemocytoblasts in erythroblastic orientation to the pyknotic nuclei of almost mature cells. No cells of megaloblastic type were observed. The spleen showed rarefaction of the lymph-follicles and hyperplasia of the cordons, with marked presence of blood cells in the lumina of the cordons and venous sinuses. The liver showed a marked congestion and fatty degeneration of the cells around the centro-lobular vein.

#### LEUKEMIA

The white cells have an important function in the general metabolism of the organism, as it seems they are assigned to the transportation of various nutritive substances from the digestive tract to other organs. Pentimalli, in a series of researches, demonstrated that the lymphocytic systems react very sensitively to the penetration of heterologous proteins or proteic

derivatives. He obtained pictures of very marked leucocytosis and hyperplasia of the hemolymphopoietic organs during the course of chronic proteic intoxications, obtained by the injection of foreign proteins. His conclusions were that the leukemias are metabolic diseases due to the entrance in the organisms of abnormal proteic products or insufficiently denatured heterologous proteins.

In our experiments, five rabbits received intravenously, on alternate days, five cc. of a twenty per cent solution of sodium nucleinate for a period of about two months; five rabbits received five cc. of a ten per cent solution of silver nucleinate; five rabbits five cc. of a two per cent solution of calcium caseinate; and five rabbits one cc. of diluted streptococcus toxin.

In the blood of rabbits injected with sodium nucleinate and calcium caseinate, the number of white cells was increased; but the cells were preponderatingly of a normal adult type, as elements of a myelocytic type seldom were encountered. The bone marrow showed hyperplasia of the myeloid cells, but, however, all the types were represented and no predominance of the less mature cells was observed. The spleen showed hyperplasia of the lymphfollicles with presence of germinal centers, and hyperplasia of the cordons, in which were observed numerous eosinophiles and cells of the erythroblastic type, but no myeloid metamorphosis, as is seen in leukemia.

In the blood of the animals receiving the streptococcus toxin a leukemoid reaction was evident. Many cells of the hemocytoblastic, myeloblastic and myelocytic types were present in the peripheral blood. The bone marrow was hyperplastic and revealed the presence of numerous stem cells and immature cells, conferring more definite leukemoid character. The spleen was hyperplastic, and on smears revealed presence of numerous immature elements.

I have followed several cases of human streptococcus infection with septicemic course and observed a similar picture. Worthy of remark is the fact that those cases which present a leukemoid picture presented the original focus of infection in the abdominal cavity. In a few cases the reaction could be taken for an authentic leukemia, and only after the principal focus of infection was discovered and drained could an improvement be observed in the leucocytic formula with return of more mature cells in the peripheral blood.

(Continued on page 29)

### PRESIDENT'S PAGE

To the members of The Kansas Medical Society:

The first official utterance of your President shall be a commendation of the very fine administration of our retiring President, Dr. J. F. Hassig. The years work is a full fruition of the many years of experience that he brought to the office. His intimate knowledge of the affairs of organized medicine has been of unusual value to this Society. His general personality has cemented the friendships of many years. His work in firmly establishing the office of Executive Secretary, the revision of the constitution and the betterments in The Journal is outstanding. The year has been one of many problems. The changes in social and economic conditions have made it necessary to take up new and difficult activities. He has met all of these in the very finest way and he closes his administration with the Society well organized, cooperative, seriously at work and alert to the problems of organized medicine.

We fully appreciate the responsibility we are assuming. We bespeak your help, your counsel, and your patience during the coming year. We pledge you our very best efforts.

H. L. SNYDER, M.D.

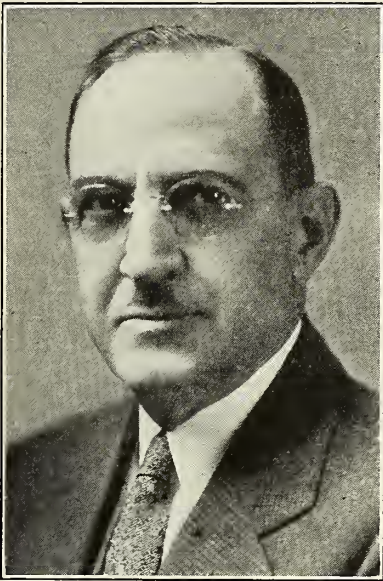


## EDITORIAL

### OUR NEW PRESIDENT

Kansas medicine welcomes Dr. H. L. Snyder as its president for 1936.

Dr. Snyder's integrity and ability as a member of the profession, his good judgment, his close association for many years with the functions of the Society, and his acquaintance



Dr. H. L. SNYDER

and recognition throughout the state equip him well to assume the responsibility for which he has been chosen.

The Journal joins all members in pledging fullest cooperation toward making his year one of the most successful in the history of the Society.

### PREMATURITY

The field of premature childbirth had best be left to the obstetrician for discussion. There is a group of premature births which does concern the profession at large. We refer to the premature announcement of new methods of treatment.

Medical literature is replete with the records of enthusiastic ideas which have been given birth before term and have died aborning. This is perfectly proper. Medical literature should be the storehouse for these dead fetuses. The tragedy occurs when we exhibit these specimens to the public.

To arouse hope of speedy cure of diabetes, cancer or insanity without being able to deliver such cures belongs to the charlatan, not to ethical practitioners. The laboratories and clinical centers should be the proving grounds for new therapeutic methods and announcements made only after such proof is certain.

Ambitious newspaper men may be charged with some of the responsibility for exciting a public ready to believe in miracles but the final fault lies in our own ambition to be the first to announce a new discovery.

Let us practice a little more conservatism, hug our babies to our bosoms until they are able to enter a world eager to receive them but anxious to slay them.

### MEDICAL RESEARCH

The increasing difficulty in obtaining funds for scientific research should engage the serious thought of the medical profession. The incalculable sums being spent for military power in nations heretofore interested in the quest of scientific truths, the millions of young men being driven into training for active military service, the moneys which were once interested in university laboratories now fighting each other for markets: these are disturbing facts. In our own country individual contributors find themselves less able and willing to donate to the support of laboratories and many investigations begun have been stopped because of lack of funds.

Great industries during their period of development saw much advantage to their own aims in research and contributed handsomely to the support of university laboratories. In recent years, these industries have required



special investigators and experimentation according to their particular commercial needs; and it has been found advantageous to establish their own research departments. The withdrawal of the support of industry has been somewhat compensated for in the Foundation, a development of organized philanthropy peculiar to the United States, for the purpose of securing, investing, and distributing funds to worthy causes and scientific research in various fields. Because of the necessity for retrenchment due to financial losses and the inability to secure adequate contributions from previously liberal donors, the work of our Foundations is being curtailed and it has been found necessary to remove financial support from much research already under way. This has resulted in the serious interference with the training of research workers and threatens the existence of research as a function of university work.

The traditional research worker is a solitary individual devoted to the discovery of scientific truth for its own sake. But as art for art's sake is no longer considered defensible, neither is such a scientific point of view. Modern realism demands that truth connote utility. Research workers should still be able to think and deserve a cloister. They should not be required to work under the pressure of time and a task master. It is true that the modern scientist is a more gregarious individual than his traditional forebears. He works in a group, and, perhaps, less genius is required and there is less intellectual responsibility. In the universities, too often, research is combined with teaching. In addition to a given problem, the worker must produce papers at specific intervals to demonstrate to authorities or to donors that progress is being made.

Research requires such qualifications and training of its personnel that it should be considered as a special field. The workers should be given as much latitude as is possible in a university environment. It is essential that the basic education for future research workers begin in the high school curriculum. The application

of physiochemistry requires more training in mathematics. The student who displays aptitude in pre-medical and medical school study may be chosen for special training in medical research.

For the medical profession to finance its own research, as many industries are doing, and is being done by the Mayo Clinic through the Mayo Foundation, seems a large order, yet it may become necessary in the process of economic readjustment. There are obvious disadvantages to organized medicine in the financing of some of the research work undertaken by Foundations whose social aims are not in accord with popular medical opinion. However the question of financing medical research is to be solved, it is becoming a vital issue worthy of the best thought of the medical profession.

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## MEDICAL SCHOOL CLINIC

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### ALKALOSIS WITH KIDNEY INSUFFICIENCY

LESLIE B. SMITH, M.D. AND

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The existence of an altered chemical state in the body, such as acidosis and alkalosis, was first suggested by Franciscus Sylvius<sup>1</sup> during the seventeenth century. Friedrich Walter<sup>2</sup> (1890) first described the action of alkalies upon metabolism and MacCallum and his co-workers<sup>3</sup> were the first to produce alkalosis experimentally. Since MacCallum's work on alkalosis, many studies have been made on the acidbase balance of the blood, and alkalosis is now commonly recognized clinically. This condition is adequately reviewed by Van Slyke<sup>4</sup> and in the recent textbooks of medicine and surgery.

Musser<sup>5</sup> defines alkalosis as "that condition of the fluids of the blood which is produced by the addition thereto of base, or the withdrawal of acid, to a degree sufficient to alter, beyond

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physiological limits, the pH, the carbon dioxide tension, or the bicarbonate content of the plasma." This change in the blood produces a clinical syndrome which is present in many disorders. In alkalosis the chief factor is probably the change in the pH of the blood, resulting from an increase in the blood alkalies induced by either (1) an excessive loss of acid from the body, as the loss of carbonic acid in hyperventilation or loss of hydrochloric acid by vomiting, or (2) absorption of alkalies, as in the treatment of peptic ulcer. In the clinical laboratory the acid base balance is determined, for practical purposes, by the carbon dioxide combining power of the plasma, the normal being stated as forty-five to fifty-five volume per cent, or as given by Marrack<sup>6</sup> fifty-five to sixty-five cubic centimeters per 100 cubic centimeters of blood.

Alkalosis is characterized clinically by headache, nausea, drowsiness, increasing instability, restlessness, excitability, paresthesias, tremors and tetany. In severe cases convulsions may occur. Edema and evidences of renal insufficiency are found in advanced cases. Renal changes have been noted by numerous observers both experimentally and clinically. This "Alkalosis Uremia Syndrome" has been reviewed by Bothe<sup>7</sup>, Pfeiffer<sup>8</sup>, and Orr and Rumold.<sup>9</sup> There may be a marked increase in the blood non-protein nitrogen and urea nitrogen, associated with albuminuria, cylinduria, pyuria and mild hematuria. Constant findings in cases resulting from loss of gastric juice are a decrease in blood chlorides, dehydration and lowered blood volume.

The following two cases are reported as illustrations of severe alkalosis. In one patient epileptiform convulsions occurred and evidence of renal insufficiency was present in both.

#### CASE 1

History—H. J., white male, aged thirty-two, was admitted to the University of Kansas Hospital complaining of stomach trouble, vomiting and convulsions. For several years the patient had been consuming a considerable quantity of alcohol with rather frequent intoxications. During the past few months he had used more alcohol than formerly and had frequently been intoxicated for several days each week. Following these indiscretions he suffered from gastric distress with sufficient nausea to make him induce vomiting quite frequently. Six days prior to admission he went

on an alcoholic debauch, and the next day he suffered from epigastric distress and nausea. He induced vomiting by inserting his finger into his throat every few minutes. This condition persisted for the five days prior to admission and was not relieved by large doses of sedatives. During this time he had intense thirst, became quite weak, very irritable, disagreeable and difficult to manage.

About noon the day of admission he had a convulsion lasting one and one-half minutes, which was characterized by unconsciousness, opisthotonos, generalized tonic and clonic movements, rolling of the eyes, biting of the tongue and incontinence of urine, followed by a five minute period of unconsciousness. Thirty minutes after the first seizure a second convulsion occurred, and a third followed in one and one-half hours. He had five definite convulsive attacks in one afternoon.

The physical examination showed a well nourished white male who was very restless, talking irrationally and crying out for water. There was moderate cyanosis of the lips and fingers, and marked sweating. The pupils were dilated. Mucous membranes of the mouth were very dry. The pulse rate was 100. The blood pressure was 200 systolic and 150 diastolic. There was no evidence of edema. All tendon reflexes were hyperactive.

Laboratory findings on admission: The blood chemistry showed a carbon dioxide combining power of 80.6 volume per cent, sugar 180 milligrams, chlorides 240 milligrams, non-protein nitrogen 85.5 milligrams and creatinine 1.7 milligrams per 100 cubic centimeters of blood. The red blood cells were 5,810,000, white blood cells 32,650, hemoglobin 106 per cent, polymorphonuclears eighty-nine per cent and lymphocytes eleven per cent. Five to six pus cells per high power field were found in the urine.

Progress: In Table I is given the therapy and the blood chemistry changes during the entire hospital stay. During the first twenty-four hours in the hospital the patient's condition was much improved and the nausea disappeared. He was able to retain small quantities of water by mouth and some soft foods, and on the third day he felt well, disposition was agreeable, and he retained a soft diet. During the hospital stay the blood picture gradually became more normal with a count the day before dismissal as follows: Red blood cells 4,500,000, hemoglobin eighty-four per cent,



TABLE I

Shows rapid return of blood chemistry to normal following treatment with sodium chloride solution.

Time	CO <sub>2</sub> Volume Per Cent	N.P.N. <sup>°</sup>	NaCl	Creat.	Sugar	NaCl Intake	Total Fluid	Urinary Out Put
Admission	80.6		240		180			
1st 12 hours	32.4	85.5	260	1.7	109	250 cc. 3% I.V. 2000 cc. N.S. Hypo.	4300 cc.	2400 cc.
2nd 24 hours		52.5	360	1.8	87	1700 cc. N.S. Proct.	4500 cc.	3675 cc.
3rd 24 hours		33.5	440	1.4	155	3000 cc. N.S. Hypo	10150 cc.	4250 cc.
4th 24 hours	46.6	32.3	465	1.5	110			
5th 24 hours	54.1	27.	450	1.4	132			

°Blood chemistry figures are mgm. per 100 cc. blood.

(I.V., Intravenous; Hypo., Hypodermoclysis; Proct., Proctoclysis.)

TABLE II

Shows return of blood chemistry to normal similar to findings in Table I.

Time	CO <sub>2</sub> Volume Per Cent	N.P.N. <sup>°</sup>	NaCl	Creat.	Sugar	NaCl Intake	Total Fluid	Urinary Out Put
1/20/35	85	60	330	1.5	132	4000 cc.-0.8 %	4950	650 cc.
1/21/35	92	46	350	1.4	112	1400 cc.-0.8 %	2370	700 cc.
1/22/35	72	34	500	1.4	115	800 cc.-2½ %	2950	2500 cc.
1/23/35	83	26	450	1.3	114	500 cc.-2½ %	1590	725 cc.
1/26/35	67	31	490	1.3	109	2000 cc.-0.8 %	3010	

white blood cells 16,300, polymorphonuclears eighty-two per cent, eosinophiles two per cent, lymphocytes sixteen per cent. During the second and third days the urine contained one plus sugar. The urine on dismissal was alkaline in reaction with a specific gravity of 1.009, a trace of albumin and 120 pus cells per cubic millimeter. The blood pressure varied from 150 systolic and 110 diastolic to 190 systolic and 140 diastolic. For several weeks after the patient left the hospital the blood pressure was 120 systolic and eighty diastolic and the urine was normal.

## CASE 2

History—A. J., female, aged thirty-five, admitted to the hospital on January 20, 1935. Onset of illness ten days before admission with severe pain in the upper abdomen extending through to the upper lumbar region. Pain was followed in a short time by nausea and vomiting. The vomiting had been continual for ten days.

During the past three years she had had several mild attacks with similar pain, at times accompanied by severe chills.

Examination: On admission she was acutely ill. She lay in bed groaning with pain and frequently vomited. Extreme dehydration was

obvious. Her skin had a pasty appearance and her lips were dry and harsh. The abdomen was distended and tympanic. Peristalsis could be heard. There was definite tenderness over the entire abdomen and the skin of the abdominal wall was hypersensitive. The blood pressure was normal. Her blood count on admission showed red blood cells 5,580,000, hemoglobin seventy-seven per cent, white blood cells 13,850 with eighty-five per cent polymorphonuclears. A catheterized specimen of urine showed a specific gravity of 1.014, acid reaction, a heavy trace of albumin, granular and hyalin casts and a few pus cells. On the following day the urine showed the same findings with clumps of pus cells. The blood chemistry determinations are shown in Table II. Wassermann and Kahn were negative.

Tentative diagnosis of acute intestinal obstruction, acute nephritis and alkalosis were considered.

X-ray of the abdomen did not reveal any evidence of obstruction. She was immediately given normal saline solution by hypodermoclysis and by intravenous infusion. Within five days her urine returned to normal. On the sixth day the blood chemistry findings were within normal limits with the exception of a slight increase in the carbon dioxide combining

power which was sixty-seven volume per cent. The white blood count had returned to normal within five days and the red blood count showed a rather striking change with a drop of red cells from 5,580,000 to 3,180,000. There was also a fall in the hemoglobin from seventy-seven per cent to sixty per cent. This change was evidently due, not to a rapidly developing secondary anemia, but to a dilution of the blood which was markedly concentrated on admission.

The patient was operated upon with a tentative diagnosis of empyema of the gall bladder. A small quantity of blood stained fluid was found in the abdomen. The pancreas was enlarged to at least three times the normal size and was markedly thickened and very firm. There were many areas of fat necrosis in the mesentery and the omentum. Many old adhesions were present between the gall bladder and the mesentery of the transverse colon. The liver was slightly nodular and enlarged. The gall bladder was about average size and contained many small stones. Because of the generally poor condition of the patient the common duct was not explored. Stones were removed from the gall bladder and the gall bladder drained. The patient made a good post-operative recovery. She left the hospital with instructions to return at the end of three months for an operation on her common duct.

#### COMMENTS

The first patient illustrates the complexities of alkalosis both in its clinical and laboratory manifestations. We believe that the course of events in this case are as follows: Alcoholic gastritis with sufficient nausea to cause patient to induce continuous vomiting, which resulted in alkalosis by loss of hydrochloric acid in the gastric juice. The nausea was aggravated by the alkalosis producing a vicious cycle. The severity of the alkalosis is shown by a carbon dioxide combining power of 80.6 volume per cent and the very low blood chlorides of 240 milligrams. The convulsive seizures, mental state, hyperactive reflexes, and evidence of kidney damage, are clinical evidences of severe alkalosis.

This case presents several unusual findings associated with alkalosis, i.e., severe epileptoid convulsions, increased blood pressure and leucocytosis. The increased blood pressure is the antithesis of the usual finding of lowered blood pressure. We believe that it was a part of the "uremic" symptoms in this case since it

returned to normal as the evidence of kidney damage abated. In a rather comprehensive search of textbooks and the literature no reference to leucocytosis in cases of alkalosis has been found. Very few reports even mention the leucocyte count, and those given are normal. A search was made in this case for infection to explain the leucocyte count of 32,650, but none was discovered. An acute gastritis as a cause of leucocytosis was considered. The patient had a daily elevation of temperature up to 100°F. which we believe was due to acute gastritis or to the depleted state and dehydration.

The second patient well illustrates the advanced state of alkalosis, with its typical blood chemical changes, that may develop with an acute inflammatory condition within the abdomen. The similarity of symptoms, physical findings and results of laboratory studies between acute intestinal obstruction and acute pancreatitis are clearly shown in this case. The same striking therapeutic results were obtained by giving sodium chloride solution as was noted in Case I. The evidence seems clear that without prompt treatment this patient would have soon died as a result of dehydration, hypochloremia and alkalosis due to excessive vomiting of essential upper gastrointestinal secretions. The clinical findings definitely indicated that the toxemia incident to the acute pancreatitis was subsiding at the time of admission to the hospital ten days after the onset of the illness.

The importance of the renal complications associated with alkalosis was pointed out by Brown, Eusterman, Hartman and Rountree<sup>10</sup> in 1923. The picture presented may be that of uremia which is substantiated by the evidence of kidney damage. However, the laboratory findings should aid in the differential diagnosis in that evidence of acidosis is associated with uremia of pure nephritic origin. The differential diagnosis may be complicated by the fact that clinically it is often difficult to distinguish between acidosis and alkalosis.

Alkalosis usually responds readily to therapy, as illustrated in these cases. Fortunately sodium chloride is a specific for the condition when it results from loss of gastric juice. This may be given either by intravenous infusion of a three to five per cent solution or by hypodermoclysis of physiologic salt solution. The change in the chemical state of the blood should be checked daily as a guide to therapy.



Alkalosis is a condition which should be diagnosed more frequently than it is at present. This is especially true for milder cases such as those due to vomiting and hyperventilation of the psychoneurotic, who present the milder symptoms of irritability, excitability, numbness, tingling, twitchings and headaches that are usually ascribed to a neurosis. Alkalosis should always be suspected in any prolonged vomiting, any type of hyperventilation and during alkaline therapy.

#### SUMMARY

1. Two cases of severe alkalosis are presented. The first resulted from vomiting in a case of alcoholic gastritis, with the symptoms and findings of renal insufficiency and the more unusual findings of leucocytosis, elevated blood pressure and convulsive seizures. The second was produced by persistent vomiting as a result of a severe attack of acute pancreatitis.

2. A brief discussion of alkalosis, from the clinical point of view, is given.

3. Attention is again called to the fact that a solution of sodium chloride given in sufficient quantity is a specific for alkalosis produced by loss of gastric hydrochloric acid.

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## LABORATORY

Edited by J. L. Lattimore, M.D.

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### CLINICAL PHOTOGRAPHY

C. ALEXANDER HELLWIG, M.D.

Wichita, Kansas

The importance of recording pathological changes, both in the living and in the dead subject, by photographs cannot be overesti-

mated. A good picture tells often more than a whole page of descriptive matter. No doubt the time will come when a photographic department will be regarded as an economic and scientific necessity not only in research institutions but also in the general hospital.

The Traveling Salon of the Association of Biological Photographers which was exhibited at the last state medical meeting in Salina, demonstrated what excellent work is done today by experts in clinical photography.

As long as a medical photographic department is not available in every large hospital, the physician should make his own photographic records of his important cases. There is neither mystery nor difficulty in making clinical photographs, nor is it essential that the equipment used be elaborate. By following carefully a few simple rules any practitioner can obtain excellent pictures in his office.

#### EQUIPMENT

The clinical camera should have a double extension bellows so that objects may be photographed in actual size if required, a ground glass back for exact focusing and a tripod. The most practical film size is five by seven inches. The optical equipment on the camera selected is of utmost importance; an anastigmat lens is a necessity, as a good clinical photograph should have microscopic detail. A convenient focal length is eight inches.

The lighting equipment consists of a photoflood Mazda lamp in a gooseneck stand for focusing and a photoflash Mazda lamp reflector for exposing. A portable home portrait reflector painted light gray serves as background.

As negative material, superspeed safety portrait film is most commonly used, while I prefer Wratten M plates.

#### SET-UP

The patient is placed about twenty inches in front of the background and the photoflood lamp is so directed as to provide the necessary illumination for focusing the lesion on the ground glass of the camera. The shutter and diaphragm of the lens are opened and the desired picture, in the right scale, is focused sharply on the ground glass by turning the small knob which moves the bellows in and out. When focusing has been completed, the photoflood light is switched off, the diaphragm is closed

to f.32, the shutter is closed, the plate holder is placed in the back of the camera and the slide is removed. Finally the shutter is opened and the photoflash lamp is pointed at the lesion so that an angle of forty-five degrees is formed, care being taken that the light from the lamp does not strike the lens. When the battery switch is pressed, the exposure is made. To complete the procedure it is necessary only to close the shutter and replace the slide in the plate holder.

#### DEVELOPING AND PRINTING

The film is developed for eight minutes in x-ray developer solution at 65 F. Plates are best developed in a tray. Thorough rinsing in water, fixation for fifteen minutes, washing for thirty minutes in running water and drying complete the processing procedure. Contact prints are made on glossy Azo paper and dried on the ferrotype board.

#### CONCLUSIONS

By following the outlined rules, anybody can with perfect regularity take clinical photographs of excellent quality. All that the medical man has to learn is how to pose the patient and how to focus the desired picture on the ground glass of the camera. These two steps should be done by the physician himself, all the other procedures may be left safely to the technical assistant.

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## TUBERCULOSIS ABSTRACTS

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### TUBERCULOSIS AMONG NEGROES IN THE SOUTH

Briefly the deplorable situation in the Southern States comprising this Conference was made manifest through the following facts. The total population of the thirteen states represented is approximately 35,000,000 of which negroes comprise approximately 10,000,000. While less than one-third the total population is colored, more than half of the deaths from tuberculosis are to be found among

the negroes, the average death rate from tuberculosis among negroes being almost three times that among the whites. The Southern States comprising this Conference, possessing only sixteen per cent of the national wealth, must meet the needs, (social, economic and physical) of seventy-five per cent of the nation's negro population.

The importance of environmental conditions, arising chiefly through ignorance, poverty, and neglect, was repeatedly stressed. The annual economic loss from tuberculosis deaths and morbidity among negroes is very great.

The significance of occupational contacts was also emphasized and attention was called to the fact that through domestic and other personal services, approximately fifty per cent of the adolescent and adult colored population is brought into close touch with white children at their most susceptible age, thus providing perpetual seeding of a most fertile soil. Recent statistical studies were presented, revealing the significant fact that school children from the homes of those who employ negro domestics show a much higher percentage of infection as revealed by tuberculin tests than those from the homes of people who live reasonably well but who are unable to employ domestic help.

It was shown that in spite of the high incidence, morbidity and death rate from tuberculosis in the negro, there is a serious paucity of sanatorium beds for negroes. The annual number of deaths from tuberculosis among negroes in the South is approximately 11,000 with only 2,000 available sanatorium beds. The deaths among the whites approximate 10,000 with sanatorium facilities approaching one bed for every death. It was made obvious that poor housing, overcrowding in unhygienic surroundings, insufficient food, and the consequent massive infection among negroes make sanatorium care imperative.

#### DIAGNOSTIC DIFFICULTIES

It was pointed out that early diagnosis is often more difficult in the negro than in the white patient on account of certain racial and temperamental characteristics. There is often an utter disregard of mild or moderate symptoms, also a lack of information concerning the significance of symptoms when recognized. A sense of futility is often present and it is not uncommon to find a wilful attempt to conceal symptoms and to avoid examination. In some



cases diagnosis is difficult because of certain variations, racial or environmental, in the clinical course of the disease where the characteristic symptomatology and pathology simulate acute non-tuberculous conditions.

The lack of general medical service was also stressed, revealing the startling fact that in some communities twenty-five per cent of the deaths among negroes occur without medical attention.

#### RACIAL SUSCEPTIBILITY AND PATHOLOGICAL VARIATIONS

Throughout the sessions, these debated questions were ever present with a heavy trend on the part of the clinicians toward environmental influences. However, as pointed out by the pathologists, it was found impossible to eliminate racial susceptibility with racial variations in clinical and pathological manifestations. As a consequence, the discussions arising at this meeting resulted in a happy blending of racial and environmental influences. The pathologists present generally acknowledged the influence of environment as a potent factor in the wide gap between the white and colored death rates, but at the same time they presented convincing evidence of racial or biological characteristics in the pathology of tuberculosis. Fortunately, the controversy left no one in doubt as to the importance of environment in our future programs for control of tuberculosis. At least environment is open to attack and subject to alteration.

#### PREVENTIVE AND THERAPEUTIC MEASURES

The obvious influence of ignorance and poverty upon the incidence, morbidity and death rate was stressed. The need of education was repeatedly emphasized, with stress upon the importance of health education in the schools and churches through public health agencies, with particular emphasis upon the work of the public health nurses. The need of trained colored physicians and colored public health nurses, with a discussion of ways and means of providing the same, received detailed consideration. Schools and special teaching clinics for the training of colored doctors and nurses for service in the prevention, diagnosis and treatment of tuberculosis were advocated. It was urged that training for negro doctors should include adequate provision for fundamental instruction of undergraduates in the epidemiology, diagnosis and treatment of tuberculosis in medical schools for negroes, also intern and resident service for negro

doctors in sanatoria and in the tuberculosis wards in general hospitals.

Health education in negro colleges was suggested as a means of preparing the way for general health education, since a large per cent of college graduates become school teachers. The desirability of providing racial leadership was emphasized. The character and quality of papers and discussions presented by colored doctors at this conference may be considered prophetic of future achievements along this line. The affiliated collateral meetings for colored people initiated at the Houston Conference also mark a resounding note of promise.

The question of sanatorium beds for negroes was discussed and a committee appointed to pursue this need. The Burr Cottage, the screened porch, and other improvised home facilities were discussed in connection with home treatment. Artificial pneumothorax in ambulatory cases among negroes was advocated as a public health measure and as being significant from an epidemiological standpoint.

#### ULTIMATE CONCLUSIONS

This meeting made obvious the necessity of squarely facing the tuberculosis problem among negroes in the South, if we hope to make further progress in tuberculosis control as it concerns the population as a whole.

Both the medical and sociological phases of the problem received careful consideration. The program, throughout, was characterized by a frank expression of opinion. All questionable teachings and procedures were scrutinized with distrust, while all facts established by science and tried by experience were eagerly received. Through the discussions ran a coveted consciousness of the adequacy of medical science in the control of tuberculosis, saddened by an equal awareness of the inadequacy of its application to the problems of control. It was evident that the failure to meet social and economic needs stands prominently in the way of scientific progress.

The implications of lethargy and neglect rest upon the shoulders of both the professional and lay groups. It was agreed that there should be no passive moments; no resting on the oars, while waiting for better facilities. The resistant qualities of crass ignorance and superstition still found in the strongholds of poverty is like granite, and yields only to the perennial operation of elements which reach their destiny through gradual erosion.



The spirit characterizing true public health work was shown to be synonymous with genuine religion, and consists not in getting, but in giving.

The facts assembled seemed to warrant the conviction that the crusader against tuberculosis should wear a composite garment with medical science, common sense and measured sentiment as its chief components.—*Tuberculosis Among Negroes in the South*—Dr. Lewis J. Moorman, Oklahoma City.

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## MEDICAL LITERATURE

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Edited by Will C. Menninger, M.D.

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### ARTIFICIAL PNEUMOTHORAX IN PNEUMONIA

Burbank and Rothstein believe that artificial pneumothorax is a beneficial method of treatment of lobar pneumonia and present a series of twenty cases so treated, in which the mortality was only ten per cent. The authors list eight indications to be considered before the treatment is begun: (1) the pneumonia must be of the lobar type; (2) the lung involvement must be unilateral; (3) the age of the patient must be below sixty; (4) moribund patients must be excluded; (5) the patient must be actively febrile; (6) the stage of the disease must be earlier than the sixth day; (7) pleural effusion must not be present; and (8) complications already present must be considered.

The standard pneumothorax machine with eighteen to twenty gage needles was used, and when feasible, the puncture was made over one of the uninvolved lobes. Novocaine anesthesia was used. Air was never introduced until the fluctuations obtained were characteristic of intrapleural pressures, and frequent readings were taken to avoid sudden pressure rises. The amounts varied from 200 to 500 cc. for one treatment and from 600 to 1600 cc. for the total. The ideal amount seems to be about 1000 cc. divided into two treatments of 500 cc. each, given from four to six hours apart.

Immediate effects of the treatment were relief of pain, freedom in breathing and coughing, and in six cases, a short period, from three to five minutes, of coughing. Delayed effects included (1) permanent relief of pain; (2) free and painless coughing with an increase in

the amount of sputum present for a short period due to the free painless coughing; (3) ability to sleep and rest without opiates; (4) no abdominal distention; (5) no direct effect upon toxicity; and (6) a crisis before the fifth day in only two cases.

There were no immediate complications such as pleural shock, air embolism, or increase in dyspnea or cyanosis. Delayed complications were (1) pleural adhesions which necessitated the discontinuation of the pneumothorax; (2) empyema: two patients developed empyema due to *Streptococcus hemolyticus*, were both operated upon, and are gradually recovering; (3) Atelectasis and pulmonary fibrosis have not been observed in any case; (4) delirium developed in five cases; (5) delirium tremens developed in one case of alcoholism; (6) bilateral parotitis, auricular fibrillation, and carbuncles over the sacrum developed in one case each; and (7) three cases developed contralateral lobar pneumonia.

Pneumothorax is not expected to replace other accepted forms of treatment, but merely to supplement them in patients where its use is indicated. Advantages of pneumothorax are that it requires no typing; it can be used at once; it is not limited by the pneumococcus type; there is no danger of anaphylaxis; and it is inexpensive. It requires, however, special apparatus and technical experience.

Burbank, Benjamin; & Rothstein, Emil: Artificial Pneumothorax in the Treatment of Lobar Pneumonia, *Annals of Internal Medicine* 9:376-387, October 1935.

### FEVER THERAPY IN ARTHRITIS AND CHOREA

The use of the Kettering hypertherm in treating eighteen cases of gonorrheal arthritis, nine acute and nine chronic, and twelve cases of Sydenham's chorea is reported by Schnabel and Fetter. Fever is produced in the patient in this apparatus by means of a current of heat and humidified air. The patient's pulse and temperature are taken every fifteen minutes or oftener. The temperature reaches the desired level in from sixty to ninety minutes. For patients with gonorrheal arthritis the treatment consists of five hours in the cabinet with the temperature retained at 106 F. (rectal) to 107. Treatments are given at weekly intervals; the number required varies, but is usually from two to five. Of the nine acute cases so treated, six were cured, two markedly improved, and one moderately improved. Of the nine cases

of chronic gonorrheal arthritis, five were cured, three markedly improved; and one moderately improved.

Temperatures of 103 to 104 F. for three hours at weekly intervals were used in the first cases of chorea. Later it was found that the patients improved more rapidly after temperatures of 105 to 106 F. with treatments twice a week. The present treatment is three hours at 105 to 106 twice weekly with as many treatments as necessary; usually from three to five are sufficient. Of the twelve patients with chorea, nine were cured and two greatly improved. One died following treatment, and the autopsy revealed a cerebral disturbance of the heat regulating mechanism.

Schnabel, Truman, G. Fetter, Ferdinand: Fever Therapy in Gonorrheal Arthritis and Chorea, *Annals of Internal Medicine* 9:393-405, October 1935.

#### PERSONALITY AND ENDOCRINES

From a study of 1400 quantitative necropsies, Freeman concludes that emotional stability and energy drive may be safely granted to the endocrine system but that as far as personality types are concerned, the endocrine glands seem to have little say in the matter.

For the past ten years psychotic patients dying at St. Elizabeth's Hospital have been submitted to necropsy with the various glands being removed, weighed, and examined histologically. In most cases photographs showing growth disorders and constitutional types of the body have been obtained beforehand and used for comparison in the study.

The four personality types named and described by Freeman are cycloid, paranoid, schizoid, and epileptoid. The author discusses each gland separately, giving the percentages of small glands or large glands in each type of personality. He concludes that the pituitary and the thyroid may be responsible for the energy drive that enables the personality to unfold and develop, but these glands, as well as the others discussed, are not directly responsible for personality trends in the individual, according to this study. A large percentage (forty-four per cent) of the epileptoid personalities were in the persistent thymus groups, whereas in the entire group, the proportion of this type is only 8.6 per cent. Freeman suggests further study in this regard.

Freeman, Walter: Personality and the Endocrines: A Study Based Upon 1400 Quantitative Necropsies, *Annals of Internal Medicine* 9:444-450, October 1935.

#### TREATMENT OF CHOREA WITH TYPHOID VACCINE

Ash and Einhorn feel that the intravenous injection of typhoid vaccine in the treatment of chorea may be of harm in the presence of carditis. In addition to cases from the literature, the authors' series includes seventeen patients with chorea treated with intravenous injections of typhoid vaccine. In four patients with uncomplicated chorea and in one with chorea and rheumatic carditis so treated there occurred a secondary rise of temperature from one to two weeks after the last injection of vaccine. In three patients with active carditis so treated there was evidence of increasing severity of the existing carditis, and one of these children died six weeks after the last injection. The other two improved. The authors conclude from their study that the use of typhoid vaccine in the presence of rheumatic infection is not harmless, but that a large proportion of patients with chorea do not present carditis. For these last, use of the vaccine seems justifiable. The sedimentation test has appeared to be the best single laboratory guide to the presence of rheumatic infection.

Since an early depression and subsequent rise of the number of granulocytes occurs during the febrile reaction following injections of typhoid vaccine, this method of therapy should be checked by frequent determinations of the white blood cell count.

This study shows that typhoid vaccine therapy does not prevent a recurrence of chorea.

Ash, Rachel, and Einhorn, Nathan: Use of Typhoid Vaccine in Treatment of Chorea, *American Journal of Diseases of Children* 50:879-887, October 1935.

#### CONVALESCENT BLOOD IN WHOOPING COUGH

In an effort to determine the value of convalescent serum and of immune whole blood in the prevention of whooping cough, Bradford makes a study of the literature and of fifty-eight children under three years of age. These children were given injections either of ten cc. of serum taken in the eighth week of convalescence or of from ten to twenty cc. of whole blood taken from an adult (usually a parent) who had previously experienced the disease.

Of this group, forty-four were obliged to remain in families in which one or more cases existed; twenty-seven received injections during the incubation period; fifteen cases developed of which ten (sixty-six per cent) were mild. There was one complication.



Of the control group of twenty children, eight (forty-one per cent) had a mild form of the disease, eight average, and four severe. Complications developed in four.

In seventeen children exposed in the family who received the preventive vaccine after symptoms of coryza existed, there was no evidence of modification of the course of the disease. Of sixteen patients exposed outside of the home, nine were given injections during incubation, and the number completely protected was so great as to suggest that the exposures may not have been genuine.

The author concludes from a study that immune blood is effective in the prevention and modification of whooping cough if given before the catarrhal symptoms appear. If the disease is established before the injection is given, favorable results are less apparent.

Bradford, William L.: Use of Convalescent Blood in Whooping Cough, *American Journal of Diseases of Children* 50:918-928, October 1935.

#### INFANTILE CONGENITAL SYPHILIS

A careful study of infantile congenital syphilis and the means of its diagnosis was made by Ingraham. Although there is no absolutely reliable method of diagnosis during the period immediately after birth when the disease does not manifest itself clinically, it is possible by means of a careful study of each case and the application of such diagnostic methods as do exist to detect infantile congenital syphilis while it is yet "curable."

About fifty per cent of children born of syphilitic mothers are infected. Thus whether all are treated or whether treatment is delayed until the clinical symptoms develop, the method will be satisfactory in only fifty per cent of cases. Since the special methods of diagnosis, by which it is possible to determine the presence of the disease early in life, are expensive, it is impractical to subject all living infants to such a study. The first essential, then, is the knowledge that the parents of the infant are diseased. Ingraham's experience shows that history and physical examination will arouse suspicion of the presence of syphilis in about eighty per cent of women of childbearing age harboring this disease, and routine blood serologic tests will detect it in about eighty-three per cent of cases.

The amount of prenatal antisyphilitic therapy to which the pregnant syphilitic woman has been subjected gives a good indication of the chances of obtaining a healthy child. An

untreated syphilitic woman will give birth to a diseased child four times out of five, and infants born of syphilitic women who have been treated for the last five months of pregnancy are seldom diseased; however, it is not well to rely on these general tendencies. Every living infant born of a syphilitic mother should be given the benefit of special study.

Of the diagnostic methods used, physical examination of the child at time of birth is of value in not more than two to three per cent; blood serologic tests are of worth in about fifteen per cent but of absolute value in only about one to two per cent; the blood sedimentation rate has no absolute value; dark-field examination of the umbilical vein will reveal spirochetes in about twenty per cent; and roentgenographic examination of the long bones will show osteochondritis in about thirty per cent of such infants. The author found a combination of these methods will reveal in the first week of life at least half of the babies ultimately proved to be syphilitic and about three-fourths by the end of the second month. He feels that no infant suspected of having contracted the disease should be treated until he be proved to have it, provided such diagnostic methods as these are available.

Ingraham, Norman Jr.: The Diagnosis of Infantile Congenital Syphilis During the Period of Doubt, *American Journal of Syphilis and Neurology* 19:547-580, October 1935.

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## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

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Editor's Note: Although the editor of this section, as a member of the Medical Economics Committee, is too modest to publish the following excerpts which appeared last month in other medical publications, the Editorial Board feels that the Society membership is entitled to know about the interest being evidenced outside of Kansas in the excellent work of this Committee:

From the Journal of the Indiana State Medical Association:

"Something or somebody has put a lot of pep into the Kansas State Medical Society. For some months now we have been observing a note of improvement in that organization, in one way or another. Now they come out with something spick, span, brand new, and something that is good. It is officially entitled "A symposium of miscellaneous topics pertaining to socialized medicine prepared by the Medical Economics Committee of the Kansas Medical



Society for Kansas debaters on this subject." It covers some twenty full-sized mimeographed pages and is replete with information of the sort that is "eaten up" by debaters on the subject, whether they be of the high school variety or grown-ups. They start with some of the affirmative declarations, giving attention to the rather widely distributed set sent out by the Pollak Foundation, and each declaration is met by an answer which is based on actual experience in the State of Kansas. The material is concisely presented and is so much to the point that every member of the medical profession could well spend an hour in its reading. We recommend that headquarters make some arrangement whereby this excellent matter may be widely disseminated in our state."

From the Illinois Medical Journal:

"Many plans are now being tried in different parts of the country to care for the indigent. The so-called Washington Plan appears to be one of the most successful and is being accepted in other parts of the country. It is quite intricate, and takes considerable money for the overhead, but is practical in Washington and should be in other cities of like size. How it would work in small communities is questioned by some. In Kansas the Medical Economics Committee has worked out a plan whereby all of the charity work is handled through the County Medical Society on a schedule of \$1.00 per month for each individual on relief roles. This amount is paid by the Board of Supervisors or Relief Officials directly into the treasury of the local County Medical Society. The patients call the doctor of their choice and when he has completed the care of the case he sends his bill directly to the executive secretary of the County Medical Society and he pays the bill out of the funds received from either the Board of Supervisors or relief agencies. At once many objections and questions as to how this plan will work comes to mind. However, the officers of the Kansas State Medical Society inform us that the results have been most satisfactory in the counties that have used the plan the longest and that new counties are adopting the plan every week. They stress the importance of cooperation of the medical profession, insisting that every one must keep in mind the Golden Rule and not allow either personal cupidity or unreasonable demand on the part of the indigents to result in abuse of the demands on the treasury. They claim that the

amount of overhead is surprisingly low and that in all instances the income from relief agencies justifies the expenditures to the medical profession and for executive workers. Surely, Kansas is to be commended for working out such a simple and yet workable plan and the rest of the states are giving this plan great consideration. It is possible that such a plan will help the physicians of Illinois to meet the present problem, resulting from the transfer of the care of the indigent from a township to a county responsibility."

From a bulletin of Madison County (Indiana) Medical Society:

"The effort to show up the necessity for Health Insurance has brought to it the backing of various foundations who are providing the ammunition for the National High School debates on the subject. So serious is the situation that the Kansas State Medical Society have issued a timely monograph on every phase of the subject, which to date is the best I have seen. Communication from State Headquarters verifies the advisability of every County Society in the State devoting their December meeting to a full consideration of this question. I hope no one will be disappointed if I take the liberty of reviewing the Kansas monograph, which is in the form of questions and answers, that I will briefly go over, with the hope that everyone will be sufficiently interested to later read in full. For it is written to meet every affirmative statement that can be brought out for the adoption of Health Insurance, as provided in these debates. We certainly should be prepared to answer not only the questions of High School students but also, answer intelligently any question we may be asked by any one. And from now on we are facing something that may prove worse than a temporary depression."

From the Journal of the Oklahoma State Medical Society:

"Among many subjects discussed at the conference of secretaries and editors, Chicago, November 14, 15, 1935, the Kansas Plan for Medical Care received both favorable and unfavorable comment, it appearing to some that there was danger in this plan as it might be extended to include the low income group and might be hard to discontinue at the expiration of Federal and State Relief. There was favorable comment in that it would bring to the physicians of the respective counties some income from the people who at this time are

receiving services without remuneration to the medical profession. It was also thought that this plan would teach the participants that they must again accept the responsibility of paying for medical care."

## TWENTIETH CENTURY PHYSICIAN?

The following bit of history raises the question as to whether the physician's status has really changed very much since the tenth century.

Isaac Judaeus, the Jewish physician who, in the tenth century, practiced in Egypt, later emigrated to Mauretania and finally became court physician to Kairwan said "The chief task of the physician is to prevent disease. The majority of diseases are cured by Nature. Never employ more than one drug at a time. If thou hast the choice to effect a cure by nourishment or by drugs choose the former." His economic teachings are equally modern. "Demand thy fee of the patient when his illness is increasing or at it's height; when he is healed he forgets what thou hast done for him. The more thou demandest for thy treatment, the more highly thou esteemest thy cure, the higher wilt stand in the eyes of the people. Thy art will be held of no account only by those whom thou treatest gratuitously."

O.W.D.

## KANSAS STUDENTS DEBATE

It was reported that the Round Table Conference conducted at the Kansas State Teachers Conference held in Topeka, Kansas, recently brought out the following fact.

That a considerable number of the debate coaches in attendance had experienced difficulty in getting sufficient students to debate the affirmative side of the question on Socialized Medicine. The students felt that the weight of evidence was on the negative side of the question and they were hesitant to accept assignments on the affirmative.

The decision of the students who have considered both sides of the question certainly deserves the highest commendation. It is safe to assume that the student mind of Kansas is representative of all the other groups considering this subject. It is also safe to assume that the thinking people of the entire nation, after burdening themselves with a knowledge of both sides of the question, will render a decision that parallels that of the student bodies in our schools.

O.W.D.

## Some Experimental Findings on Blood Pathology

By M. Gerundo, M.D.

(Continued from page 15)

### AGRANULOCYTOSIS

Agranulocytosis has been the object of numerous investigations in recent years. Since Schultze isolated the syndrome of agranulocytic angina, many other workers have demonstrated that it is possible to reproduce experimentally the picture of the disease by the injection of various substances, principally benzol and arsenic.

In the phenomenon of leucopenia many have pointed out the importance of the vegetative nervous system, and particularly of the parasympathetic. From the study of Zondek and Kraus it appears that the ions, potassium and OH, influence the parasympathetic, and that the action of K salts on the organs is identical to that exercised by the parasympathetic.

From very recent studies it has been demonstrated clearly that the typhoid toxin also inhibits the abdominal sympathetic, thereby producing a relative state of parasympathicotonia (Annales de Medecine, January and February, 1935.) In our experiment, five rabbits received six injections intraperitoneally of three cc. of a diluted typhoid toxin on alternate days, and five rabbits received four injections intraperitoneally of one cc. of potassium lactate. Another five rabbits received nineteen intravenous injections of one cc. of a one per cent solution of potassium lactate on alternate days. The rabbits receiving typhoid toxin presented a very marked leucopenia, with predominance of lymphocytes and monocytes, and presence of very few granulocytes. The bone marrow was depleted of granular cells and showed only erythroblasts and large cells of the hemocytoblastic type. The rabbits receiving potassium lactate showed, in blood smears, absence of granulocytes, presence of lymphocytes, monocytes, erythroblasts in very immature stage, and hemocytoblasts. The bone marrow revealed complete depletion of granular cells, with persistence of few erythroblastic nests and many degenerated cells. The tissue was replaced by numerous large cells of endothelial origin, hemohistioblasts, some provided with azurophile granulations and long wavy cytoplasm.

I mention the negative results obtained by means of chronic intoxication with sodium amytal and dial in rabbits. At all times in the



course of treatment, the blood smears showed a normal differential count. The bone marrow showed presence of all cells in normal proportions. Careful following up tests of patients under long protracted sodium amytal treatment did not reveal any great difference in the total and differential counts, except, possibly, a relative increase of lymphocytes and monocytes.

In reviewing the findings of the above experiments it is evident that the tyramine intoxication or an hemolytic process cannot explain the pathogenesis of pernicious anemia. While the writer believes that the disease originates in a form of endogenous intoxication, as proved by those cases with known etiology and by the good results of ventricular therapy, at the present time it is still a matter of uncertainty to assign one definite substance a principal role in the manifestation of the disease.

As to leukemia, the experiments have given a better result. The proteic intoxication gives pictures of hyperplasia, but I never have observed any particular character which is distinctive of leukemias. The streptococcus toxin is the one which produces, in spontaneous human diseases as well as in experimental conditions, characters very similar to those of the true disease. What is the real place of leukemia in human pathology? Not a tumor of the blood, as many authors would believe. The cells are immature but they belong to types normally found in the adult bone marrow, the anaplastic type being practically unknown. Anaplastic cells, which do not belong to an adult type of cells, and do not follow the normal lines of development, are found instead in pernicious anemia, in which the cell type, the megaloblast, derives from a cell which, in the adult, is never found in hematic orientation. I would be more inclined to consider leukemias as a blood granuloma developed under a toxic condition, most probably infectious. The leukemia of the fowl, due to a filterable virus, is a good example; and the leukemoid reaction obtained by streptococcus toxin demonstrates such possibility.

The experiments with typhoid toxin and potassium lactate demonstrate clearly that agranulocytosis is not a definite entity, as the etiological agents are multiple and of various nature. It is a rather striking symptom, or complication, in the course of various diseases,

but it cannot be considered as a separate syndrome. The pathogenesis is still obscure. It is difficult to understand why certain microorganisms, like the streptococcus, stimulate a marked leucocytosis, or even a leukemoid reaction, while others, like the typhoid, bring on marked leucopenia with granulocytopenia. It has been noted that young infants usually have digestive leucopenia with neutropenia, and that some drugs acting on the sympathetic nervous system produce leucocytosis or leucopenia, according to their influence respectively on the sympathetic or parasympathetic.

It may be possible that a toxic influence on the vegetative nervous system determines changes in blood pictures more than we have considered possible.

Further studies on this subject may explain differences which appear to us obscure at the present time.

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## NEWS NOTES

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### DUES INFORMATION

1. The amount established by the House of Delegates for 1936 Society assessments remains the same as last year—\$8.00 per member.
2. Pursuant to the Constitution and By-Laws all remittances must be forwarded to the secretary of the component society of membership.
3. Copies of the 1936 membership report were mailed to the various secretaries under date of December 23. It is hoped that all reports will be returned not later than March 15 in order that a complete membership roster may be prepared by April 1 to facilitate registration of Kansas members at the American Medical Association meeting in Kansas City, Missouri, on May 11-14. Your secretary will appreciate any assistance you can give toward that result.
4. The Society has established a 1936 goal of 1500 members and it is believed that the functions planned for this year will make that objective possible. If you know of an eligible and desired non-member please recruit his interest in the activities of organized medicine.

### WPA TRAUMATIC INJURIES

Information received from the Kansas WPA office under date of December 28 shows that approximately 300 persons have been provided with medical attention for traumatic injuries suffered in the course of work project employment.



In the same interview Mr. J. J. Poizner, state compensation officer, stated that almost all physicians are following the Kansas Workmen's Compensation schedule as a basis for fee claims and also requested we advise the Kansas profession that both he and Mr. Evan Griffith appreciate the excellent cooperation physicians are extending in the operation of this project.

### FIRST AID PROGRAM

The following bulletin was directed to all county medical societies on December 19:

To: All Secretaries

We are advised by Mr. Carl Campbell, State Safety Consultant for the Kansas WPA, that instructions have been received from Washington to provide all WPA foremen with first aid courses. Also, that these shall be presented as follows:

1. In accordance with study outlines contained in the American Red Cross First Aid Book.
2. At convenient and centralized places.
3. By persons who are qualified to deliver first aid lectures.

Mr. Campbell has requested the assistance of the physicians of Kansas in this project, and is agreeable to a suggestion that medical speakers be obtained through the county medical societies rather than through selection of individual members by WPA representatives.

He has been furnished with a list of secretaries of the various societies, and is today instructing his district representatives to confer with the secretary of each county for a discussion of possibilities concerning local meetings.

Copies of study outlines will be available to physicians through the WPA, and in all probability no great amount of time would be required for preparation or delivery of lectures.

Although no compensation is to be offered for this particular service, it is believed that the Kansas WPA will greatly appreciate your help, and that the project will be of substantial public benefit.

Sincerely yours,

J. F. Hassig, M.D., President.

### PUBLIC MEETING

Members of the Coffey County Medical Society sponsored a public meeting in the high school auditorium in Burlington on December 17. All residents of that community were invited to attend.

Dr. J. F. Hassig and Dr. L. F. Barney, Kansas City, were the featured speakers on the program and their subjects were respectively as follows: "Medical Care in the Future" and "How Health and Longevity Can Be Easily Secured."

### BRINKLEY APPEAL

John R. Brinkley's appeal of the case against the Kansas Board of Medical Registration and Examination, which he recently lost in the United States District Court, has been set for hearing in the United States Circuit

Court of Appeals at Oklahoma City, Oklahoma, on January 21, 1936.

If this case is also lost, Brinkley has only one remaining appeal—the United States Supreme Court.

Attorneys for the Society are O'Neil and Hamilton of Topeka, and attorneys for the Board are the Attorney General and Mr. W. C. Ralston, of Topeka.

### FIFTY YEARS

Through the courtesy of the Wilson County Medical Society, the central office has received a copy of the paper presented by Dr. A. C. Flack, Fredonia, at the recent banquet given by that society in his honor. The interesting viewpoint of a physician who has completed fifty years of practice is reproduced below for the benefit of all members:

"Fifty years in the practice of medicine in the same locality! It seems a long time looking forward, but not so long looking back. What a wonderful fifty years it has been in the progress of medicine and the world in general! No other fifty years in the history of the world can be compared with it. More marvelous things have come to light in the past century than in any five preceding centuries. I am not sorry that I was born back yonder seventy-seven years ago and that in a few more years I will pass on. I have none of Ponce de Leon's ambition to drink of the mountain of eternal youth and I do not envy the feeble wandering Jew with his life everlasting.

Had I my pick of time to live, in all the past or in all the future, I would pick the exact age in which I have lived. Think of what progress has been made in the past half century, not only in medicine but in science and art. Fifty years ago the science of bacteriology was in its infancy. Few indeed, even in the medical profession believed that bacteria were a causative factor in disease. Only a short time ago they celebrated the fiftieth anniversary of Pasteur's treatment of his first case of rabies and the patient is still living. Less than fifty years ago, Koch discovered the bacillus of tuberculosis, the 'Captain of the Men of Death.' This was the beginning of the annihilation of the Great White Plague and is a more important victory for mankind than that resulting from the Fifteen Decisive Battles of the world.

Medicine is the only profession that is literally and altruistically devoted to professional suicide. It endeavors, chiefly, not alone to cure but to prevent disease and then to banish from mankind, pain, suffering and ultimate death from maladies of the flesh. But what it cannot prevent, it must cure; what it cannot cure, it must palliate. Typhoid fever, one of the scourges of the past century, is now a preventable disease; there were only 158 deaths from that cause among the 4,000,000 American soldiers in the World War.

For four centuries, the Panama Canal Zone was called, 'The White Man's Grave,' but under the matchless genius of Gorgas, who banished yellow fever, it was made the healthiest spot on earth and enabled the building of the Panama Canal.

The discovery of the x-ray by Roentgen in 1896, soon followed by the discovery of radium by Madame Curie, was a triumph in wresting another secret from the physical world and furnished another weapon for the cure of certain forms of cancer. The use of safe drugs for local injection in rendering surgical operations painless is now like a performance in a magic world. Antitetanic serum to prevent lockjaw is the king of preventive serums.

The discovery of the four types of blood by Mall made possible transfusions. The whole world is indebted to the inventors of many diagnostic instruments of precision, such as the basal metabolism machine, blood pressure apparatus, the electrocardiogram and many other valuable aids in diagnosis.

Fifty years ago we knew little about the ductless glands and less of their function. Twenty years ago we had no remedy to rescue the diabetic patient until the wizard, Banting, discovered insulin. I might go on and mention perhaps a hundred important discoveries in the field of medicine to prove that more progress has been made in the past fifty years than in any preceding five hundred years. Not only in medicine has great progress been made in the past half century, but in all the arts and sciences. Mechanical engineers tell us that there will be no radically new inventions for a hundred years or more. Genius will have all its time and ingenuity taken up, developing the possibilities of the principles already discovered.

During the past fifty years, I have seen the world revolutionize in a mechanical way. The telephone was invented within my memory. When I was a boy, the tallow candle was the universal lighting system and well do I remember when the coal oil lamp came into existence. Later, owing to the genius of Thomas A. Edison, the sputtering carbon arc lamp lighted up the streets and parks. The incandescent lamp that we have now came later. In 1880 I paid a small fee to see that marvelous invention, the phonograph. The wax cylinder had not been invented. The record was made on tin-foil wrapped around the metal cylinder and the machine was turned by hand. The moving picture machine, the talkie and that marvel of the ages, talking through space without a wire. Twenty-five years of my time in the practice of medicine were spent in horse and buggy days. I loved the spirited horse and loved to drive it, but in bad weather I felt sorry for the animals and often made the statement that the time would come when I would ride over the roads in a buggy not drawn by a horse. Edison was working on the storage battery and I expected it to furnish the power that would drive me hither and yon. My hope was realized and I did ride in a buggy propelled by electricity. However, about this time the gasoline engine was invented and we now speed over the highways in chariots far surpassing those of ancient kings and wonder if the time is not near when we will go where we please in individual airplanes. It is not at all improbable.

These are just memories of changes that I have seen since I have been here in this delightful old world. What a lot of fun it has been! What a joyous time we have living, we who have been here fifty years. There will never be another fifty years in history which can hold a candle to the last fifty. A thousand years from now, the last fifty years will take up more space in history than any fifty before or after. I am glad I was here when it all happened. It has been a privilege to live and I could almost shed a tear for those nice old chaps who lived and died before fifty years ago and missed it all. They never experienced the thrill of riding through the country at a mile a minute. They never imagined that we would see man out-stunting the birds in the air. They never dreamed of listening to bottled-up music at their pleasure or hearing the melody of the Metropolitan Opera Company of New York City on Sunday afternoons or while baling hay in the meadow, listening to the world's series play-by-play. I am not the least bit envious of those twenty-one-year-old boys just breaking into life. Poor chaps,

they just came along after everything had happened. We fellows around seventy-seven are going to take off into the stratosphere before long, but believe me, we have lived!

### SECRETARIES CONFERENCE

The conference of secretaries and editors of state medical societies, conducted annually by the American Medical Association, met at the Palmer House in Chicago on November 15 and 16. Eighty-five representatives attended and those from Kansas were: Dr. J. F. Hassig, president, Dr. F. L. Loveland, chairman of Medical Economics Committee, and Clarence G. Munns, Executive Secretary. Dr. E. A. Meyerding of the Minnesota State Medical Association was elected as chairman of the conference. The following program was presented:

An address by Dr. James Mc Lester, president of the American Medical Association, describing medical conditions in Soviet, Russia, as he found them during his attendance at the Physiology Conference in Moscow last summer. In his opinion the Russian type of state medicine has created an inefficient and unsympathetic type of medical practice.

Dr. W. D. Cutter, secretary of the Council on Medical Education and Hospitals of the American Medical Association, emphasized the need for close cooperation between the state and county medical societies and the Bureau toward a further betterment of standards for medical practice and hospitals. He recommended also the establishment of a national board for examination of specialists.

Dr. P. N. Leech, secretary of the Council on Pharmacy and Chemistry of the American Medical Association, described the work of the Council in analyzing pharmaceutical preparations and in exposing carelessly prepared and dangerous products. He mentioned the need of further state and national legislation to regulate problems of this kind and used as an illustration the present erroneous information concerning vitamins that has been circulated in the lay press and advertisements. The suggestion was made that the state and county medical societies attempt to promote efforts for closer cooperation between physicians and the Council. At this point of the meeting Dr. Morris Fishbein, editor of the Journal of the American Medical Association, deplored the fact that the New Jersey Medical Society had actively opposed the work of the Council on Pharmacy and Chemistry and described some of the difficulties that have followed this procedure.

Mr. George Crownhart, executive secretary of the Wisconsin State Medical Society, presented a paper describing the medical economic activities of the Wisconsin State Medical Association. He stated that the Wisconsin profession believes that the indigent sick should have free choice of physicians through the medium of county medical society contracts with a reasonable compensation provided by the various counties, also, that for the low income groups, county medical society bureaus for investigation and institution of installment principles should be operated, at least in the larger municipalities.

Dr. Ralph H. Pino, president of the Wayne County Medical Society, Detroit, discussed a post-graduate plan in use at Harper Hospital in Detroit, wherein members of the staff specialize in research on particular subjects for presentation of facts and literature at regular meetings



of the staff held each Friday morning. Approximately 100 subjects have been delegated in this manner and that after a considerable period of operation their staff feels that many advantages have resulted.

Dr. F. C. Warnshuis, executive secretary of the California Medical Association, criticised the above plan from the standpoint that hospital centers of post-graduate instruction minimize interest in county medical societies and outlined the California method wherein the four medical schools in that state arrange centralized courses through cooperation with medical organizations.

Dr. J. Tate Mason, president-elect of the American Medical Association, spoke concerning the present policies of the medical profession against socialization and recommended that the various state societies increase their efforts for acquainting the profession and laity with the seriousness of systems of that kind. He stressed also the excellent assistance the American Medical Association has given in that regard and asked that the various members aid rather than criticize the parent organization.

Dr. E. M. Shanklin, editor of the Journal of the Indiana State Medical Association, defended the policies of the American Medical Association and urged that further effect be made through the state medical journals for an improvement of understanding of all matters in which that organization is now active. He suggested the advisability of a coordinating unit between the American Medical Association and the state journals, praised the Cooperative Medical Advertising Bureau for its assistance in securing advertising, and illustrated in particular the need for supporting the Bureau of Investigation and Council of Pharmacy and Chemistry.

Dr. D. F. Harbridge, secretary of the Arizona State Medical Association, presented a plan wherein the various state medical societies would be divided into six sections as sub-divisions of the American Medical Association. It was his opinion that this method would provide a stronger organization and unity of action.

Dr. Morris Fishbein, in a talk on medical organization reviewed the origin and development of the large number of special and unofficial societies that have advanced into medical organization. He pointed out the needless expense and decentralization of organization many of these societies have occasioned.

Following the general meeting, a separate conference of editors was held at which the following topics were discussed:

1. The advisability of copyrighting state journals to prohibit garbled quotations by propagandists.
2. The propriety of accepting liquor advertisements.
3. The amount of commissions paid by the state journals to the Cooperative Medical Advertising Bureau.
4. The extent to which complimentary copies of journals should be permitted.
5. Post-office regulations regarding the mailing of journals.
6. Exchanges with the bulletins of county medical societies.
7. Policies in effect for discontinuing journal subscriptions of unpaid members.
8. Mention of non-approved drugs in scientific articles.
9. Editorial campaigns toward obtaining a greater number of fellows of the American Medical Association.
10. Uniform arrangement of indexes in the various journals.

11. Supervision of articles and editorials by editorial committees.

12. The use of local solicitors for increasing advertising.

It was generally believed that the conference was the best ever held and arrangements were made for enlarging its program next year.

## WESTERN SURGICAL ASSOCIATION

The Western Surgical Association met in Rochester, Minnesota, December 4-7. The Mayo Clinic gave a preliminary program acting as hosts for two days. Dr. Earl C. Padgett, University of Kansas School of Medicine, gave a paper on "Treatment of Cleft Palate." Other Kansas members in attendance were Dr. L. F. Barney and Dr. C. C. Nesselrode, Kansas City; Dr. T. G. Orr and Dr. L. P. Engel, University of Kansas School of Medicine; Dr. H. W. Horn, Wichita and Dr. J. L. Evans, Wichita; Dr. W. M. Mills, Topeka, and Dr. F. R. Teachenor.

Dr. T. G. Orr, was elected president and Kansas City, Missouri, was chosen as the next meeting place in December 1936.

## THE NEW PHARMACOPOEIA

The new Pharmacopoeia, the Eleventh Revision, will be available on December 16th next. This date has been fixed by the Board of Trustees of the United States Pharmacopoeial Convention to enable the publishers, the Mack Printing Company of Easton, Pennsylvania, to place books on sale in all parts of the country simultaneously.

As directed by the U.S.P. Convention, the Board of Trustees has also fixed the date when the standards of the new Pharmacopoeia shall become official, superseding the Tenth Revision. This date is June 1, 1936.

The following articles have been added to the Pharmacopoeia:

Aeriflavina, Aeriflavinae Hydrochloridum, Aethyleum, Aethylhydrocupreinae Hydrochloridum, Aethylis Oxidum (Solvent Ether), Antitoxinum Scarlatinae Streptococcium, Bismuthi et Potassii Tartras, Calcii Creosotas, Calcii Gluconas, Calcii Hydroxidum, Carbo Activatus, Carbonei Dioxidum, Chlorobutanol, Digitalis Pulverata (Biologically standardized), Emulum Petrolati Liquidi (50 per cent), Ephedrina, Ephedrinae Hydrochloridum, Ephedrinae Sulfas, Erythrylis Tetranitras Dilutus (Erythrol Tetranitrate), Extractum Hepatis, Ferri et Ammonii Citrates Virides, Fluoresceinum Solubile, Histaminae Phosphas, Hydrargyri Succinimidum, Iodophthaleinum Solubile, Liquor Ergosterolis Irradiati (Viosterol), Liquor Hepatis, Liquor Hepatis Purificatus, Liquor Histaminae Phosphatis, Liquor Parathyroidei, Liquor Sodii Hypochloritis (4 per cent), Merbaphenum, Neocinchophenum, Oleum Iodatum, Oleum Maydis, Oleum Morrhuae Non-destearinatum, Oleum Rosae, Phenacinae Hydrochloridum, Phenobarbitalum Solubile, Pulvis Chinifoni, Serum Antimeniingococcium, Serum Antipneumococcium—I, Sodii Perboras, Sodii Stearas, Stomachus, Tabellae Glycyllis Trinitratis, Theophyllina cum Ethylenediamina, Theophyllina cum Sodii Acetate, Tinctura Iodi Mitis (2 per cent), Toxinum Diphthericum Detoxicatum, Toxinum Diphthericum Diagnosticum, Toxinum Scarlatinae Streptococcium, Toxitaellae Hydrargyri Bichloridi Parvae, Trypsamidum, Tuberculinum Pristinum, Vaccinum Rabies, Vaccinum Typhosum, Vaccinum Typho-paratyphosum.

## COUNTY SOCIETIES

The Allen County Medical Society held its regular meeting on December 13 in Iola and the following officers were elected for 1936: Dr. O. L. Garlinghouse, Iola, president; Dr. H. L. Hendricks, Iola, vice-president; Dr. F. L. B. Leavell, Iola, treasurer and state meeting



delegate; Dr. C. B. Stephens, Iola, secretary; Dr. L. F. Schmous, Iola, censor and Dr. J. T. Reid, Iola alternate delegate.

Members of the Barton County Medical Society held a dinner-meeting in Hoisington on December 12 at the home of Dr. and Mrs. T. J. Brown. An election of officers also was held and the present officers were re-elected for 1936.

At a meeting of the Bourbon County Medical Society in Fort Scott on December 16, the present officers were unanimously reelected to serve during 1936. Dr. E. R. Deweese, Kansas City, Missouri, and Dr. C. C. Conover, Kansas City, Missouri, were speakers.

The following officers were elected for 1936 at a meeting of the Brown County Medical Society on November 28 in Hiawatha: Dr. W. G. Emery, Hiawatha, president; Dr. H. J. Deaver, Sabetha, vice-president; Dr. R. W. Wyatt, Morrill, secretary; Dr. R. T. Nichols, Hiawatha, treasurer; and Dr. E. J. Leigh, Hiawatha, censor. The meeting was also devoted to discussion of The Kansas Medical Society Plan.

A dinner-meeting of the Central Kansas Medical Society was held on December 5 in Ellsworth preceded by a program at an afternoon session. Dr. B. A. Higgins, Sylvan Grove; Drs. Ellis W. Wilhelmy, Ferdinand C. Helwig, and O. J. Dixon, all of Kansas City, Missouri, were speakers.

The Cherokee County Medical Society held a meeting on December 10 in Columbus in the office of Dr. H. H. Brookhart. Future plans of that society were discussed.

Members of the Clay County Medical Society were hosts to the members of the Washington County Society at a dinner-meeting in Clay Center on December 18. Election of officers was held as follows: Dr. O. U. Need, Sr., Oak Hill, president; Dr. Wm. VanScoyoc, Clifton, vice-president; Dr. F. R. Croson, Clay Center, secretary-treasurer; Dr. W. R. Morton, Green, censor. Dr. W. F. Bowen, Topeka, was the guest speaker on the program.

A meeting of the Cloud County Medical Society on December 9 in Concordia was held for the purpose of discussing the recent diphtheria immunization campaign held in that county.

Dr. L. M. Beatson, Arkansas City, presented a paper on "Angina Pectoris" before members of the Cowley County Medical Society at a meeting in November at Winfield.

Dr. W. A. Parrish, Mulberry, was elected president for 1936 of the Crawford County Medical Society at a meeting held in Pittsburg on December 12. Dr. O. G. Keller, Franklin, was elected vice-president, and Dr. C. D. Bell, Pittsburg, as secretary-treasurer.

The following officers were elected for the coming year at a meeting of the Douglas County Medical Society in Lawrence on December 5: Dr. V. M. Auchard, Lawrence, president; Dr. A. S. Anderson, Lawrence, vice-president; Dr. J. M. Mott, Lawrence, secretary; and Dr. E. M. Owen, Lawrence, treasurer. A paper "Immunity and Clinical Medicine" was presented by Dr. N. P. Sherwood.

The Edwards County Medical Society held election of officers at a meeting in Kinsley on December 12. The following were elected for 1936: Dr. W. P. Stoltenburg,

Kinsley, president; Dr. L. M. Schrader, Kinsley, vice-president and state meeting delegate; and Dr. F. G. Meckfessel, Lewis, secretary-treasurer.

At a dinner-meeting of the Harvey County Medical Society held in Halstead on December 2, Dr. G. A. Westfall, Halstead, was elected president of the society for the coming year. Other officers elected were: Dr. A. L. Pettis, Newton, vice-president; and Dr. A. S. Hawkey, Newton, secretary-treasurer. Dr. J. T. Axtell, Newton, gave a paper on "The Truth About Coffee" and Dr. L. W. Hatton, Halstead, spoke on "Diagnosis and Treatment of Pellagra."

Members of the Johnson County Medical Society held a meeting in Kansas City on December 9 preceded by an osteomyelitis clinic supervised by Dr. J. B. Weaver and Dr. T. G. Orr. The election of officers for 1936 was held as follows: Dr. James B. Weaver, Kansas City, president and state meeting delegate; Dr. A. S. Reece, Gardner, vice-president; Dr. Frank Tolle, Overland Park, secretary; Dr. Edmer Beebe, Olathe, treasurer; Dr. H. R. Wahl, Kansas City, censor; Dr. D. E. Bronson, Olathe, alternate delegate.

Dr. Joseph Skaggs, Leavenworth, was elected president of the Leavenworth County Medical Society at a meeting held in Leavenworth on December 9. Dr. Wm. Pratt, Leavenworth, was elected as vice-president, and Dr. Robert Moore, Lansing, as secretary-treasurer.

The following officers were elected at a meeting of the Linn County Medical Society held in Mound City on December 2: Dr. S. D. Morrison, La Cygne, president; Dr. L. D. Mills, Mound City, vice-president; and Dr. H. L. Clarke, La Cygne, secretary.

The Lyon County Medical Society held a dinner-meeting on December 3 in Emporia and the following officers were elected for 1936: Dr. C. F. Hoover, Saffordville, president; Dr. J. J. Hovorka, Emporia, vice-president; and Dr. J. H. Munger, Emporia, secretary. Case reports by Dr. O. J. Corbett, and Dr. F. A. Eckdall, both of Emporia, were presented as a program.

A joint meeting of the Montgomery County Medical Society and its Auxiliary was held in Coffeyville on December 13 for the purpose of electing officers for the coming year. The following were elected by the society: Dr. H. J. Bagby, Coffeyville, president; Dr. G. C. Bates, Independence, vice-president; Dr. C. O. Shepard, Independence, secretary-treasurer; Dr. Fred Gasser, Cherryvale, censor; and Dr. O. W. Ellison, Independence, and Dr. I. B. Chadwick, Coffeyville, as state meeting delegates.

Dr. Charles Rombold, Dr. R. A. West, and Dr. J. G. Missildine, all of Wichita were speakers at a meeting of the Pratt County Medical Society in Pratt on November 22.

Members of the Riley County Medical Society held an election for 1936 officers at their meeting on December 4 in Manhattan. Dr. Darrel L. Evans, Manhattan, was elected president; Dr. H. T. Groody, Manhattan, vice-president; Dr. L. G. Balding, Manhattan, secretary-treasurer; and Dr. Willard C. Schwartz, Manhattan, board of censors. Members of the Fort Riley Hospital staff, Clay County Medical Society and members from Junction City and Wamego, were guests of the society. Dr. Logan Clendening, and Dr. Nelse Ockerblad, both of Kansas City, Missouri, were the principal speakers.

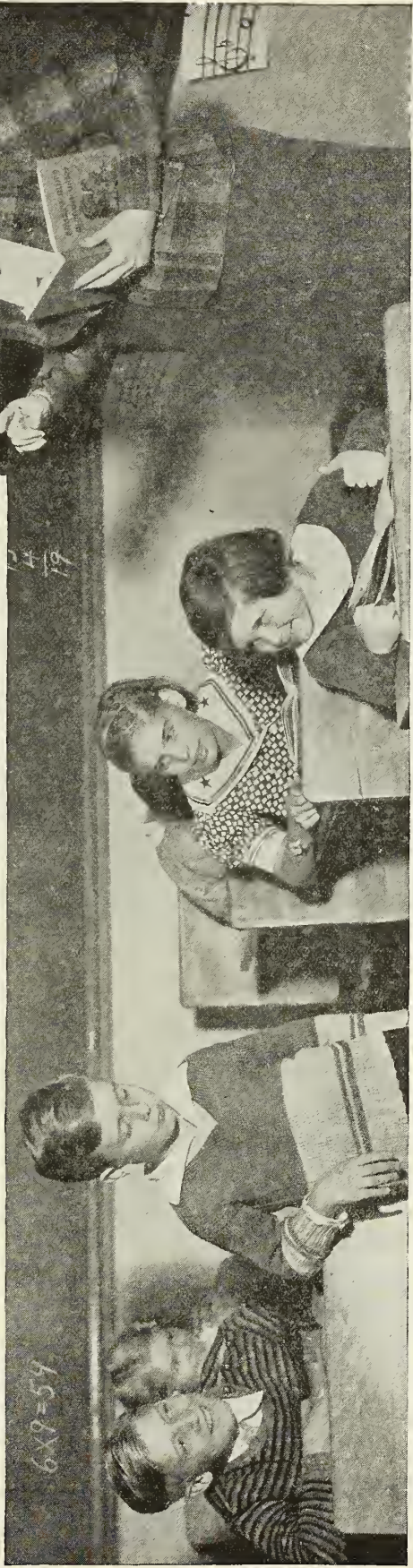


# A Poor Scholar . . .

## because of a Poor Breakfast

**M**ANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school.

Pablum offers a happy solution to the problem of the school-child's breakfast. Mothers who learn about Pablum from their physicians are delighted to serve it for it needs no cooking and can be prepared in a minute at the table—more quickly than many less nourishing foods. Pablum not only ends the bane of long cooking of cereals but in addition furnishes a variety of minerals (calcium, phosphorus, iron, and copper) and vitamins (A, B, G, and E) not found so abundantly in any other cereal.



**P**ABLUM is rich in calcium and iron, minerals likely to be deficient in the school-child's diet yet needed in more than average amounts during childhood. Pablum is 6 times richer than fluid milk in calcium and contains 10 times more iron than does spinach. It also furnishes generous amounts of vitamins B and G, essential for normal appetite. Unlike other cereals, Pablum is base-forming, important because the growing child needs to store alkali. The nutritional value of Pablum is attested in studies by Crimm *et al*

who found that tuberculous children receiving supplements of Pablum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina. Reprint sent on request of physicians. Mead Johnson & Company, Evansville, Ind., U.S.A.

Pablum (Mead's Cereal thoroughly cooked) is a palatable cereal enriched with vitamin- and mineral-containing foods, consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, iron salt, and sodium chloride.

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Dr. D. B. Parker, Ransom, was elected president for 1936 at a meeting of the Rush-Ness County Medical Society in La Crosse on December 3. Other officers elected were as follows: Dr. T. F. Brennan, Ness City, vice-president; Dr. W. J. Singleton, La Crosse, secretary-treasurer. Speakers on the program included Dr. John F. Dillon, Larned, who talked on "Psychosis"; Dr. A. C. Armitage, Kinsley, on "The State Medical Society"; and Dr. Otto Hennerick, Hays, on "Otitis Media."

The Sedgwick County Medical Society held its annual Christmas party on December 16 in Wichita, with the Rev. J. Henry Hornung, Wichita, as the guest speaker. The newly elected officers of the society were introduced as follows: Dr. G. E. Milbank, president; Dr. A. W. Fegtly, vice-president; Dr. F. L. Menchan, secretary; and Dr. J. W. Shaw, treasurer, all of Wichita.

The annual meeting of the Shawnee County Medical Society was held in Topeka on December 2. The following officers will serve during 1936: Dr. J. H. O'Connell, president; Dr. G. A. Finney, vice-president; Dr. Milton B. Miller, treasurer; Dr. Earle G. Brown, secretary; Dr. H. B. Talbot, board of censors; all of Topeka. There were 122 members and their wives in attendance at the meeting.

Dr. John L. Kilenheksel, Wichita, Dr. Fred J. McEwen, Wichita, and Dr. Howard E. Marchbanks, Pittsburg, were speakers at a meeting of the Southeast Kansas Medical Society in Parsons on December 18. Their subjects were respectively: "Diabetes," "Interesting Cases in Internal Medicine," and "Clinical Significance in the Systolic Murmur."

The Washington County Medical Society held its regular meeting in Washington on December 10. The following officers were elected for the coming year: Dr. V. J. Wall, Mahaska, president; Dr. L. J. L'Ecuier, Greenleaf, vice-president; and Dr. D. A. Bitzer, secretary-treasurer.

Dr. L. B. Spake, Kansas City, spoke on "Indications for Surgery of the Mastoid Process" and Dr. O. W. Davidson, Kansas City, spoke on "Viscero-Renal Reflexes," at the December 3 meeting of the Wyandotte County Medical Society in Kansas City.

### MEMBERS

Dr. A. C. Antony, formerly of Clyde, but who recently moved his office to Concordia, has returned to Clyde where he will again establish his office. He has been taking postgraduate work in surgery and medicine at the Pennsylvania State University at Philadelphia for the past year and since that time had located in Concordia.

Dr. W. F. Bernstorf has returned from a trip through Europe and will locate permanently in Winfield. He spent five months studying in the University of Vienna and took work in specialized gynecology, surgery and pathology.

Dr. W. A. Carr, Junction City, is home from an eight weeks study period in the New York Post Graduate Hospital.

Dr. W. A. Creviston, formerly of Olsburg, has located his office in Manhattan where he will continue his practice.

Dr. John Clifton, Vermillion, has been appointed Marshall County Health Officer.

Dr. Earle G. Brown, State Board of Health, Topeka, read a paper on "Farm Accidents" before the joint meeting of the American Association for Labor Legislation and the American Farm Economic Association, on December 28 at the Hotel Commodore in New York City.

Dr. A. B. Harrison, Herington, has received an appointment as resident interne in the department of dermatology of the New York Medical School and Hospital for a term of three years.

Dr. John A. Dillon, Larned, attended a meeting of the Missouri-Kansas Society of Psychiatrists held in Osawatimie during the second week in December.

Dr. Clifton Hall, state director of the Tuberculosis Division of the State Board of Health, Topeka, spoke in Holton on December 13 on tuberculosis testing for school children.

Dr. Charles Pokorny, has been elected to membership in the Russ-Ness County Medical Society, and has established his offices in Attica.

Dr. Leroy W. Shepard, Larned, has been elected secretary of the American Medical Association in Vienna, where he has been studying for the past few months.

Dr. R. B. Stafford, State Board of Health, Topeka, spoke before the Clay Center Parent-Teacher's association, during the second week in November.

Dr. James A. Wheeler, Newton, was awarded a fellowship in the American Academy of Pediatrics, which met in Evanston, Illinois, the first week in December.

Drs. L. P. Engel, Jos. E. Welker, and H. R. Wahl, from the University of Kansas School of Medicine, and Dr. G. M. Tice, from the Bell Memorial Hospital, Kansas City, were visiting instructors at a post graduate clinic held in Beloit by the Community Hospital staff in November.

Dr. C. C. Nesselrode, chairman of the Cancer Committee, and Dr. F. L. Rector, field representative of the American Society for the Control of Cancer were in Topeka on December 11 for a conference with Dr. Earle G. Brown as to the possibilities for including a cancer post-graduate project in the Kansas Social Security Act plan.

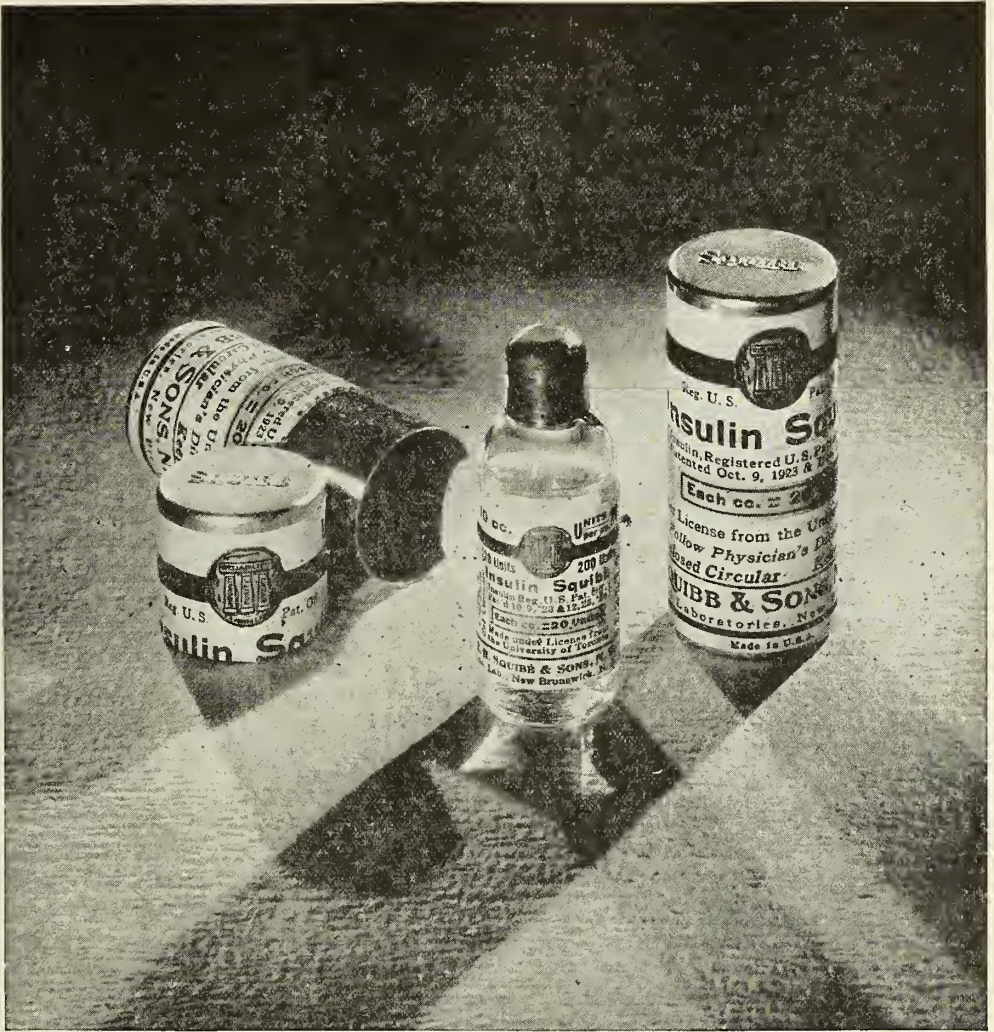
Dr. M. E. Pusitz, Topeka, has recently received the certificate from the American Board of Orthopedic Surgery and has been elected to the Clinical Orthopedic Society and the American Academy of Orthopedic Surgeons.

### BOOK REVIEWS

HUMAN ANATOMY. Two volumes, First and Second Dissection, by Dudley J. Morton, Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University. Published by Columbia University Press, New York City. Price \$6.00.

These volumes present a very carefully worked out plan for the medical student in the dissection of the human body. They cover not only the anatomical





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structures but stress as well the function and the method by which such function is secured.

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These should be very valuable books for the student of anatomy.

C. E. Joss, M.D.

**TREATMENT OF DIABETES MELLITUS.** The fifth edition of *The Treatment of Diabetes Mellitus*, by Elliott P. Joslin, M.D., revised and rewritten and published by Lea & Febiger is now available to the medical profession. In this work Joslin gives his experience in the treatment of Diabetes in the past thirty-seven years, during which time he has treated 13,000 cases. The book summarizes the vast progress in the study of the disease, particularly in relation to the endocrine glands. The physiology and pathology are gone into very fully as these subjects are quite essential to a complete understanding and shows how coma and gangrene can often be avoided. He also makes considerable point of the danger of obesity.

Owing to the fact that there is estimated to be 500,000 cases of diabetes in the United States it is quite important that every physician have as complete an understanding of the disease as possible. Dr. Joslin's collaborators with their special research have contributed much to the broadening of the text.

The book has twenty-seven chapters each dealing with a certain phase of this disease. Chapter one defines diabetes and gives the present conception of the disease. Chapter two treats of the Incidence of Diabetes. The etiology and prevention of the disease are in chapter three. The book continues with the physiology, pathology etc. down to the very definite description of food values and feeding.

Dr. Joslin feels that diabetes is a disease to be treated by young men fresh from school and laboratories with the kind of enthusiasm that was displayed by Banting and his collaborators in their enthusiasm and tireless efforts. Dr. Joslin makes a plea for everyone to help in the fight against diabetes. He also feels that diabetes will continue to run rampant in certain families as long as obesity is disregarded. This work is a happy combination of scientific and clinical experience which he so readily shares with all and I think this edition will be found most useful.

J. G. Stewart, M.D.

**THE SPASTIC CHILD** by Marguerite K. Fischel, St. Louis, The C. V. Mosby Company, 1934. \$1.50. The author relates a case of spastic paralysis, her own child, treated successfully by conservative measures. Although the author seems unaware of the fact that almost every standardized Orthopedic Clinic has a routine treatment for cases of spastic paralysis and that the operative procedures form a minor portion of this routine, she has presented a very excellent portrayal of what can be done in these cases. She has divided her book into different periods in the child's life up to the age of sixteen and has given in a most excellent fashion her treatment for the child in each of these periods. The treatment essentially consists of relaxation, the production of simple movements, muscular re-education, postural routine and foot

routine. This is followed by combinations of simple movements to produce co-ordination. The child receives speech corrective work which while she gave it in a rather unorganized fashion was yet an excellent routine. She has been able by these means to produce a child who at the age of sixteen instead of being a severe spastic is able to carry on the regular routine in life and is going to continuation school. Her treatment is by no means ended but her progress up to this age has been such as to give an excellent prognosis for the future of her boy. It forms a very interesting document proving the contentions of Orthopedists who have stressed conservative routine rather than operative intervention and who have used operative surgery only as an incident and as an aid to the treatment.

M. E. Pusitz.

### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending December 21	Month ending November 23
Chickenpox .....	604	506
Scarlet Fever .....	572	524
Pneumonia .....	193	136
Mumps .....	176	166
Whooping cough .....	98	124
Tuberculosis .....	78	111
Diphtheria .....	70	82
Gonorrhea .....	63	63
Syphilis .....	62	103
Smallpox .....	29	36
Influenza .....	29	23
Measles .....	25	24
Typhoid Fever .....	14	31
German Measles .....	11	13
Erysipelas .....	11	13
Meningitis .....	11	4
Cancer .....	10	8
Undulant Fever .....	9	15
Vincent's Angina .....	6	9
Encephalitis .....	5	4
Poliomyelitis .....	3	7
Pink-eye .....	1	3

### DEATH NOTICES

Dr. Henry Fuller Pratt, 74 years of age, died in Topeka on November 3. He was born in Kasuth, Ohio, in 1861 and attended the Ohio Medical College in Cincinnati, graduating in 1884. He was licensed in Kansas in 1901 and located in Rossville. He retired from active practice in 1919.

### PUBLIC HEALTH NOTES

Published through the courtesy of the Kansas State Board of Health

Sixty-five undulant fever deaths were reported in the United States in 1934.

It is said that "With its steadily mounting toll of death, disability and disfigurement, the automobile is more to be feared than many serious diseases."





*Wonder what he's thinking about?*

● Cute little devil—he can't say much, but he can see! Already those eyes of his have begun their work—that of flashing visual impressions to his brain. But with what accuracy they function it's too early to know. In a few years, he'll be going to school and if his eyes need correction, you'll find it out. And that's where we'd like to be of service—in making the prescription you find necessary into sturdy glasses that will help him see normally. . . . We in this organization like our work. To us, the ability to help preserve good vision is a pleasant task that we discharge with all the care and precision at our command. We'd welcome the opportunity of serving you and your patients through our 70 conveniently located offices from Chicago to the Pacific Coast.

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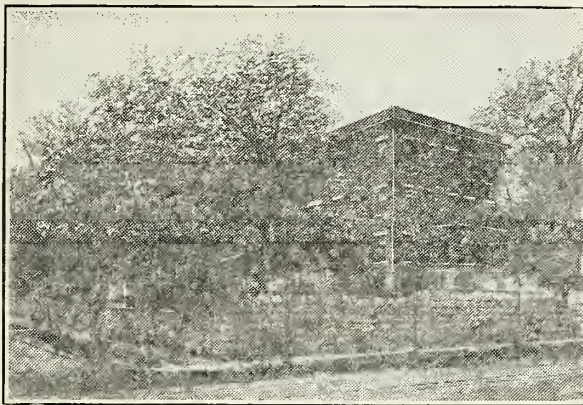
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The Water and Sewage Laboratory of the Division of Water and Sewage completed 3,766 bacteriological and chemical analyses in the state during the past three months.

Of the seven diphtheria deaths occurring in November, five were of the laryngeal type. Thirty-five diphtheria deaths were reported for the first eleven months in 1935 and thirty-four for the same period in 1934.

During October, 23,300 cases of syphilis were reported in the United States.

The 1935 provisional infant mortality rate for Kansas is 48.8.

There were ninety-four cases of epidemic meningitis for 1935 reported in Kansas to December 14.

Of the 3,730 children tuberculin-tested in the past three months, 373 or nineteen per cent were positive.

A report of 18,474 deaths has been recorded to December 1, as compared with the 18,017 in the same months of 1934.

—JKMS—

In the fiscal year ended June 30, 1935, the Federal Food and Drug Administration made 2,011 seizures and 1,029 prosecutions. More than 60,000 samples were collected and examined, nearly 50,000 of which were foods. These samples represented products of more than 13,000 manufacturers, 3,000 being responsible for some form of violation.

—JKMS—

**Motor Vehicle Madness.**—Motor vehicle deaths in Kansas are increasing at a horrible rate. The leading type for the present year is collisions of motor vehicles with pedestrians with 139 deaths to December 1. Pedestrians killed by motor vehicles are either very young or very old. Non-collision deaths which usually lead are in second place with 128. Collisions of motor cars with railroad trains have nearly doubled over 1934. There appears to actually be an epidemic of driving into trains.

More than half the pedestrian deaths are not the fault of the motorist—often the driver does not know the accident has occurred until told by others. Recently, the driver of an auto was backing from the curb. A child four years of age ran from across the opposite side of the street, directly in the path of the backing automobile, and was knocked to the pavement; a skull fracture resulted in death. The driver could not see the child. Frequently, drivers are not to blame, but they suffer from shock and remorse, even though they are innocent.

Elderly persons, confused by lights at night, or with vision so impaired they cannot judge speed and distance, walk into the paths of oncoming cars and meet instant death from fractured skulls, or crushing injuries. A quick thud and life is gone, or if injuries are not so serious may linger for weeks and finally die from shock due to the accident.

Bicycles have always been a source of dread to the motorists. Imagine the feeling of horror experienced by a truck driver driving slowly through a small town and was hailed by the driver of a car following him. The truck driver stopped, climbed down from his seat and found the dead body of a 14-year old boy. The boy was riding a bicycle and "hooking" a ride by holding to the side of the truck. He lost control of the bike and fell to the pavement under the truck wheel.

Another "true" story: The road was gravel and very dusty. It was 7:30 in the evening when an amazing ac-

cident occurred. Two cars crashed at an intersection; a 19-year old girl was killed and one driver sustained broken ribs and a crushed leg. The amazing part of it all was that both drivers claimed to have stopped for the intersection. Two motionless cars, but the only other possible witness was unable to tell her version of it because she was instantly killed.

There are drivers who say that speed does not cause motor vehicle accidents. That may be true, but a combination of carelessness plus speed kills. While driving late at night at an estimated speed of 80 miles an hour, the young man at the wheel failed to see the curve sign and drove straight ahead—over the wing wall of a bridge. The car hurtled through the air for about 90 feet and landed upside down on the opposite side of the bank. Three persons were killed and one critically injured. The facts were reported by the sheriff.

## WOMAN'S AUXILIARY

Members of the Brown County Medical Auxiliary held a meeting at the home of Mrs. Gordon Emery on November 22 in Hiawatha. The Auxiliary decided to hold its election of officers at the February meeting. Mrs. Emery read parts of the national president's letter and the invitation to meet with the Kansas-Nebraska Auxiliary was accepted. Members of the medical society attended an entertaining program.

The Montgomery County Medical Auxiliary met at the home of Mrs. G. C. Bates in Coffeyville on November 17. Mrs. O. W. Ellison, president, presided at the short business session, and the members were joined by the doctors at an informal program.

Members of the Sedgwick County Medical Auxiliary entertained with a luncheon in honor of the State Executive Board of the Medical Auxiliary on October 3 in Wichita. After a short business meeting presided over by Mrs. Norris Rainey, president, Mrs. M. O. Nyberg, president of the state auxiliary, opened the program with a word of greeting to the members and guests. The November meeting was held on the fifth and Dr. and Mrs. E. C. Duncan, Fredonia, were guest speakers. Dr. Duncan talked on "What Wives of the Doctors Can Do for the Profession in a Legislative way." A short musical program followed the talks.

## NEW BOOKS RECEIVED

**DISEASES OF WOMEN** by Dr. Harry Sturgeon Crossen and Dr. Robert James Crossen, respectively, professor emeritus clinical gynecology and instructor in clinical gynecology and obstetrics, Washington University, St. Louis. Published by the C. V. Mosby Company, at \$10.00 per copy.

**THE PARATHYROIDS** by Dr. David H. Shelling, Johns Hopkins University and Hospital. Published by the C. V. Mosby Company at \$5.00 per copy.

**IMMUNOLOGY** by Dr. N. P. Sherwood, professor of bacteriology, University of Kansas. Published by the C. V. Mosby Company at \$6.00 per copy.

**GYNECOLOGY** by Dr. Brooke M. Anspach, professor of gynecology, Jefferson Medical College. Published by J. B. Lippincott Company at \$9.00 per copy.



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THE 1935 YEARBOOK OF EYE EAR NOSE THROAT by Drs. Brown, Bothman, and Shambaugh. Published by the Yearbook Publishers at \$3.00 per copy.

NEW PATHWAYS FOR CHILDREN WITH CEREBRAL PALSY by Gladys Gage Rogers and Leah C. Thomas. Published by the Macmillan Company at \$2.50 per copy.

INFANT NUTRITION by Dr. Williams McKim Marriott, professor of pediatrics Washington University School of Medicine, St. Louis. Published by the C. V. Mosby Company at \$4.50 per copy.

THE NATIONAL FORMULARY, Sixth Edition prepared by the Committee on National Formulary by authority of the American Pharmaceutical Association. Published by the American Pharmaceutical Association and printed and distributed by the Mack Printing Company.

SURGICAL INSTRUMENTS 1935 24th Edition. Catalogue of Surgical Instruments. Published by the Kny-Scheerer Corporation.

PHYSICAL DIAGNOSIS by Dr. W. P. Elmer, associate professor of clinical medicine, Washington University and Dr. W. D. Rose, late associate professor of medicine, University of Arkansas. Published by the C. V. Mosby Company at \$8.00 per copy.

LABORATORY DIAGNOSIS by Dr. E. E. Osgood, assistant professor of medicine, University of Oregon. Published by the P. Blankiston's Son and Company.

PRESCRIPTION WRITING AND FORMULARY by Dr. Charles Solomon, assistant clinical professor of medicine. Published by the J. B. Lippincott Company at \$4.00 per copy.

FOR AND AGAINST DOCTORS compiled by Robert Hutchinson and G. M. Wauchope. Published by the William Wood & Company at \$2.00 per copy.

## ANNOUNCEMENTS

The American Board of Ophthalmology will hold an examination in Kansas City, Missouri, May 11, 1936, and another examination will be given in New York, N. Y., during October 1936 at the time of the meeting of the American Academy of Ophthalmology. All applications and case reports must be filed at least sixty days before the date of examination. Information, syllabuses and application forms may be obtained from Dr. Thomas D. Allen, Assistant Secretary, 122 South Michigan Avenue, Chicago, Illinois.

The first international conference on fever therapy will be held in New York City, September, 1936. Further information concerning the conference may be obtained from the Secretary, Dr. William Bierman, 471 Park Avenue, New York City.

The American Association for the Study of Goiter again offers the Van Meter Prize Award of \$300.00 and two honorable mentions for the best essays submitted on the goiter problem. Information concerning the length, style, type etc. of manuscripts may be obtained from Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania.

## EXCHANGES

Debate on Socialized Medicine.—The National Broadcasting Company is providing the facilities of its red network for a chain broadcast on the question of socialized medicine on Tuesday afternoon, November 12. The negative side will be discussed by Dr. Morris Fishbein, editor of The Journal of the American Medical Association, and Dr. R. G. Leland, director of the Bureau of Medical Economics of the American Medical Association. Affirmative speakers will be William Trufont Foster, director of the Pollak Foundation, and Professor Bower Aly, University of Missouri, and editor of the debate handbook.

The last name on this debate program throws a strong ray of light upon several points regarding this debate handbook, a text which will be used by the many thousands of high school youngsters throughout the country who are to take part in debates on this subject this winter. Naturally we supposed that the handbook would be supervised by neutral interests and that the editor of it would maintain a neutral viewpoint on the question. Undoubtedly his affirmative leanings have had something to do with the copious amount of material in the handbook having to do with the affirmative side, and the dearth of material concerning the negative side. We cannot deny that Mr. Aly solicited material from probably all available sources on both sides, but how could he be fair in his analysis of material when he was preparing to uphold the socialization of medicine. Mr. Aly, we thought, was supervising the collection of material for a handbook that would give unbiased points for discussion for both sides. Could he be impersonal in his selection and editing of material when his personal feelings are definitely in favor of the affirmative side? We believe not, and we are distinctly disappointed to find this situation and wonder that the sponsors of the debates will permit such an occurrence. It smacks of an unfairness which we had hoped would be avoided in these debates, which will be participated in by youths all over our nation.—Indiana State Medical Journal.

—JKMS—

It cannot be denied that American physicians are themselves measurably responsible for their difficulties, that those who have been making a living have not been properly interested in those who have not. It cannot be denied that the workers in organized medicine have been slowed down and hampered in their work by a very large number of physicians who are so indifferent to their own welfare that they do not take the trouble to attend the meetings of their county medical societies, but, while being entirely uncooperative, do not hesitate to revile their officers for involving American medicine in an economic crisis.—Nathan B. Van Etten, M.D.

—JKMS—

The truth is that the doctors are not organized as well as the school teachers and what organization we do have is not given the united support that the educators give to theirs.

They may not get what they want the first time they try, but they do stick together and organize their sympathizers. They have their Parent-Teachers Association and thus gain the support of the parents of





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their pupils. That is no small influence in their behalf. They cultivate close relationship between the teacher and the pupils' parents. That makes a fine machine to assist the teachers in local, state, and national issues.—Colorado Medicine.

—JKMS—

Much has been written and spread by means of the printed sheet and by word of mouth about socialized medicine. By far the greatest part of it for lay consumption has been the product of social reformers because medical men have been reticent about publishing their own ideas to the world at large for various and sundry reasons. They have expressed themselves chiefly through the medium of their own scientific journals or at private forums. Much of the little that has been permitted to seep out to the laity has been couched in such exacting language and with such detail that it has been lacking both in appeal and in comprehension to all but a few of those whom it was intended to impress.

Recently our president, Dr. Clarence S. Capell, was invited to speak over the radio, and his subject was Socialized Medicine. His expression on this topic was so simple, so succinct and to the point, that it is herewith re-presented in the hope that it may further bear influence in determining the trend of thought on this all-important problem. It is ardently hoped that this conception may attract the attention of many sincere people, indirectly, through the readers of this journal.

**Socialized Medicine.**—A thorough study of socialized medicine has been made by the bureau of medical economics of the American Medical Association. They have issued many books and pamphlets on the subject. These are the main sources of my information and the authority for the following statements.

Socialized medicine is a proposed method of distributing and equalizing the economic burden of sickness. It occurs as some form of compulsory health insurance. It is a change from a personal responsibility to a social responsibility. It was introduced into Germany by Bismark in 1883 for political reasons. It was later started in England by Lloyd George also for political reasons. It has since appeared in different forms in France and other European countries. In none of these countries was it introduced by those most concerned—namely, the medical profession and the people themselves. There are those very influential in our government who advocate it and who believe that it will be instituted in America. So it behooves the medical profession to study it very carefully.

To a casual observer it would at first seem that socialized medicine could not help but be a splendid thing with its free and frequent medical examinations, chances for early diagnosis, and almost unlimited treatment.

But let us examine the reports on some of the different phases of the condition.

**Cost of Medical Care.** The subscribers, after they have paid in for some time and in response to the very human impulse "to get their money's worth," being energetically, to demand expensive things such as frequent x-ray examinations, the latest physical therapy treatment, and the most highly advertised medicines.

The lay or political management with their constant checking of doctors and patients consider their work the most important and see to it that they are paid accordingly.

So socialized medicine has not reduced the cost of medical care.

**The Medical Service.** Next, let us consider the effect of socialized medicine on the doctor. When a patient becomes a subscriber there are changes. He no longer has a free choice of physicians. That fine complex relationship between doctor and patient is destroyed. It has become depersonalized. Their relations are now mechanical. The doctor is expected to practice medicine on mechanical mass methods. He has to examine so many for trivial things or those who are merely attempting to get their money's worth. He becomes suspicious of all. Human beings are not machines. Physicians are not mechanics. The doctor has to give many merely a "look and a bottle." The result is that many serious cases are missed. The doctor must become slipshod. He loses his self-respect, initiative, and scientific honor.

So socialized medicine is demoralizing to medical practice.

**Morbidity.** Now let us consider the amount of sickness or morbidity. It is a surprising fact that health insurance with its frequent free medical examinations causes a neurosis which results in real sickness. There is too engendered a destruction of the "will to get well." And because it is free, there is a continual dosing, a harmful overmedication.

So among those insured there is a definite increase in sickness.

**Mortality.** Vital Statistics verify what one would expect from this recital. There is no decrease but a definite increase in the death rate among those insured in comparison to those uninsured.

**Recapitulation.** Medical service declined and became ineffective, cost of medical care was not reduced. There was an increase in the amount of sickness and in the death rate. A rather severe indictment.

In conclusion I will say that doctors practicing as individuals are proud of the scientific advancement they have made. They are proud of the work they have done in the field of preventive medicine. They are proud of the charity work they have done and are willing to do. They are also proud of the idealistic spirit in which it was done. They have a code given to them 2,800 years by Hippocrates, a Greek doctor, which is a force among them today. In their organization they have and use means of punishing the flagrant wrong doers.

Organized medicine does not intend any compromise with the idea of compulsory health insurance. In Los Angeles, Detroit, and in Washington, D. C., on their own initiative, the doctors have instituted plans for a more systematic care of the under-privileged. In these plans there will be a close co-operation with the local charity organizations.

Finally America does not need state medicine. Without the intrusion of any outside influence the doctors have done much to alleviate suffering and have greatly extended the span of human life.—Jackson County Medical Journal.

—JKMS—

"Professor Winslow of Yale University is authority for the statement, that for health insurance alone the German laborer must set aside something more than eight per cent of his income (8.5% to be exact) and



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### THE HISTIDINE TREATMENT OF PEPTIC ULCER

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The announcement of a new treatment for peptic ulcer usually arouses at once in the medical mind a long chain of doubt. Nevertheless, a subacute or chronic erosion of the gastric or duodenal mucosa constitutes a therapeutic problem of such great magnitude that any plausible therapeutic aid which holds the possibility of a permanent cure and eliminates the usually accepted protracted routine of bed rest, milk, alkali powders and diet over a period of months seems worthy of consideration.

During the past few years, various European investigators have been reporting encouraging results in the treatment of peptic ulcer with certain amino acids. The theory for the use of this treatment was evolved from the following line of study and experimentation. In 1923, Mann and Williamson<sup>1</sup> reported that they were able to produce in dogs subacute and chronic ulcers, quite like those found in man, by diverting to another portion of the intestine those secretions which neutralize the gastric juice as it leaves the stomach.

Aron and Weiss<sup>2</sup> repeated and confirmed these studies. They concluded that the absence of the duodenal secretions seriously interfered with protein digestion and that the ulcers developed because of an amino acid deficiency. By the use of a daily injection of five cc. of hemostra (histidine four per cent, tryptophane two per cent), they were able to prevent the development of ulcers in their experimental animals. This experimental work was then followed by

clinical trials in ulcer cases with marked success.

In an extensive study of the effects of histamine on the gastric secretion, Alley<sup>3</sup> concluded that injections of histamine stimulated the parietal cells; but, through an inhibitory action of the vagi, the peptic cells were prevented from discharging their zymogen granules.

Volini and McLaughlin<sup>4</sup>, carrying out fractional gastric analyses on ambulatory ulcer patients under treatment with histidine monohydrochloride, concluded that fasting and stimulated gastric secretion showed a decrease in the free and total acids as well as in the amount of gastric secretion, which persisted through the early part of the treatment but showed a tendency to rise during the latter part and continued to increase when the treatment was discontinued. A careful study of the effects of histidine on the gastric secretions has been carried out in only a few patients in our series. The results have been so variable that we are unable to draw any conclusions at this time.

Since Aron's original report of five treated cases, numerous articles have appeared attesting the efficacy of this treatment. Bulmer<sup>5</sup>, in a recent article, reports seventy-seven per cent symptomatic cures in a study of fifty-two unselected cases treated with four per cent histidine monohydrochloride, a figure quite in keeping with other articles now appearing in the literature on the subject.

With considerable mental reservation, we undertook a clinical investigation of this treatment. The method of procedure has been the daily injection of five cc. of four per cent histidine monohydrochloride† for a period of twenty-four days. No untoward complications or reactions have been encountered in any case, nor has any patient complained of soreness or

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†Histidine monohydrochloride is Larostidin, manufactured by Hoffman-LaRoche, Inc., Nutley, New Jersey.

discomfort from the treatment. Since January 1935, we have treated and carefully followed twenty-six unselected cases of x-ray proved peptic ulcers.

In order that the conclusions reached in this study might be judged entirely on the effect of this treatment alone, these patients were requested to carry on their usual activities of life, were given no medication whatever, and advised to eat a regular general diet. However, this latter suggestion was somewhat difficult to carry out inasmuch as most of the patients already knew the efficacy of frequent feedings and soft diet, so in several instances they were quite reluctant to eat meat, vegetables, fruits or other articles of a routine diet that had previously proved detrimental.

Soon after this study was undertaken, certain general considerations began to be apparent and one of the most striking features was the disappearance of pain that usually took place after about five days to a week. The second feature was the consistency with which these patients expressed a feeling of buoyancy and well being at the conclusion of the treatment. Whether this was a natural reaction after becoming pain-free, or a stimulating effect from the drug is difficult to evaluate; but, because this seemed to be a general unsolicited statement by the patient, we could not help but notice this feature. Also, we could not overlook the fact that many of the patients who reported this feeling were severe cases of long standing, in many of whom ulcer complications existed.

Of this series, thirteen were men and thirteen were women, whose ages varied from twenty-one to seventy-two years, the average age being 43.5 years.

Age	20-29	30-40	41-50	51-60	61-70	71-80
Male	1	4	3	1	3	1
Female	3	4	3	3		
Average age—43.5 yrs.      Total cases—26.						
Total males—13.      Total females—13.						

The average duration of symptoms for the entire series was 8.7 years; the longest history dated back forty years, and the shortest six weeks. Typical ulcer history with epigastric distress one or two hours after meals, intermittency with food and alkali relief, was present in about eighty-five per cent of the cases.

#### SYMPTOMATOLOGY

Epigastric pain or distress	21 cases
Intermittency	25 cases

History of food and alkali relief	22 cases
Hemorrhage	5 cases
Perforation	3 cases
Atypical symptomatology	6 cases
No food or alkali relief	3 cases
Average duration of symptoms—8.7 years.	

An entirely atypical history was given in six cases, but in only one of these was there an absence of some type of pain, and all but three cases had been on some type of ulcer therapy prior to this treatment. A history of previous hemorrhages was given in five cases, one of these having had nine moderately severe hemorrhages. This patient had had two perforations with generalized peritonitis on both occasions. He finished his treatment on April 24, 1935. One week later he reported to the Clinic and stated that his symptoms were somewhat improved but that he still required alkalis and milk every hour or two for pain. About May 24 (one month later), he developed acute intestinal obstruction and died. The necropsy revealed two ulcers, one in the pylorus and the other in the duodenum. The pyloric ulcer was one cm. in diameter and quite shallow. The duodenal ulcer was two cm. in diameter with a hard curled edge. Both ulcers exhibited a smooth fibrous base with no evidence of activity. Perforations had occurred in three cases in the series, one of whom was just mentioned.

In three cases, it had been impossible to obtain relief from any previous type of medical routine or management; and, interestingly enough, none of these patients were benefited by this treatment.

Of this series, twenty-two cases were duodenal and four were gastric. Perforating ulcers with pseudo-diverticuli were demonstrated in two instances, and three cases showed varying degrees of stenosis. A previous gastroenterostomy had been performed in one case, and two cases have been operated since the completion of the treatment.

Radiographic findings were checked immediately after treatment and again two to four months later with the following results: Four were considered cured, four improved, and the remainder unimproved. Those cases considered cured were the ones in which no remaining evidence of ulcer could be detected. Decrease in the size of the ulcer and lessened gastric motility was the basis on which four cases were classified as radiographically improved. Marked



x-ray improvement with no clinical relief was shown in one case.

#### RADIOGRAPHIC FINDINGS

Duodenal .....	22 cases
Gastric .....	4 cases

#### RADIOGRAPHIC RESULTS

Duodenal	
Cured .....	3 cases
Improved .....	4 cases
Unimproved .....	12 cases
Gastric	
Cured .....	1 case
Improved .....	0 cases
Unimproved .....	2 cases

The clinical results of the entire series shows seventeen cases or 65.4 per cent with complete or partial relief, and nine cases or 34.6 per cent with no clinical improvement. Of the seventeen cases listed in the improvement columns, thirteen cases or fifty per cent were completely relieved, and four cases or 15.4 per cent were partially relieved.

#### Clinical Results In Entire Series

Duration of Symptoms	No. of Cases	Complete Relief	Partial Relief	Temp. or No Relief
1 - 3 yrs.	6	4	2	
4 - 5 "	4	1	1	2
6 - 10 "	10	6		4
11 - 14 "	2	1		1
15 - 20 "	2		1	1
21 - plus "	2	1		1
Total Cases	26	13-50%	4-15.4%	9-34.6%

In order that we might make some further preliminary deductions on this treatment, we have selected eighteen cases from the entire group in which there had not been any previous complications such as hemorrhage, stenosis, perforation or pseudo-diverticuli, and in this group only three cases or 16.6 per cent were failures, while fifteen or 83.9 per cent were improved. Of this latter group, eleven cases or 61.7 per cent received complete relief, and four cases or 22.2 per cent received partial relief. Since beginning this study, four cases have relapsed after varying periods of complete relief and these cases have been included in the failure list. The average duration of relief in this relapsing group was 2.5 months and the average duration of symptoms was 6.9 years.

With thirty-one per cent of the cases in this series showing radiographic cures or improvement, and 65.4 per cent clinical cures or improvement, it is immediately apparent that a

#### Clinical Results In Uncomplicated Cases

Duration of Symptoms	No. of Cases	Complete Relief	Partial Relief	Temp. or No Relief
1 - 3 yrs.	5	3	2	
4 - 5 "	2	1	1	
6 - 10 "	8	6		2
11 - 14 "	1			1
15 - 20 "	1		1	
21 - plus "	1	1		
Total Cases	18	11-61.7%	4-22.2%	3-16.6%

wide margin of discrepancy exists between the two determinations. This fact leads us to believe that many cases now considered symptomatically cured will sooner or later have a recurrence of manifestations, causing a marked drop in the percentage figure of this group. In fact, we expect to see the improved radiographic and clinical percentage figures very closely equal each other when enough time has elapsed to allow for the usual relapse that eventually takes place in practically all other therapy. The percentage figures of improvement in our x-ray deductions are considerably lower than many of the previously published reports. Possibly this is due either to the much higher proportion of duodenal ulcers in this series than in any of the previously reported groups, or to the chronicity of the cases we have treated.

Because of the natural tendencies of peptic ulcers to heal or become symptom-free for varying periods of time without any treatment, it is obvious that no definite conclusions can be drawn until these cases, and many more, have been followed for a period of several years. It is apparent, however, that here is a method of treatment that will at least give symptomatic relief in about the same percentage of cases as our former method of procedure, which consisted of a modified Sippy regime.

The use of injections of various substances for the treatment of peptic ulcer is not a new suggestion, but heretofore advocates of such therapy have never been successful in developing much of a following among their colleagues; and, as time passes and there is an opportunity to determine the exact value of this histidine therapy, it may be discarded like all previous suggestions of this nature. However, if the treatment proves as satisfactory as our older methods, it will have the advantage of being a shorter period of therapy and eliminating the monotonous routine of food and alkalis. In my opinion, the greatest disadvantages are

the excessive cost of the treatment and the necessity of a daily trip to the Clinic for almost a month.

In this series there were three cases in which a Sippy regime would not control the pain, and in none of these three cases was the pain relieved by the injection treatment, suggesting the probability of failure of this method in cases which have formerly been intractable under the usual methods of treatment.

In closing, we would like to point out that although this particular line of therapy probably is not the final answer to the question of ulcer treatment, at least we have a new approach to the problem which may in time lead to further investigations which will give us something more than an acid neutralizing remedy as the groundwork for the management of these cases.

Author's Note: We wish to thank Dr. John Simon, resident dispensary physician at Bell Memorial Hospital, for his cooperation in carrying out the active treatment of these patients.

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#### VISCERO-RENAL REFLEXES AND THEIR DISTURBANCES\*

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In unraveling the complexity of symptoms arising in diseases of the urinary organs one must be impressed with the frequency and severity of urological changes and the absence of cardinal symptoms referable to this system.

Portis and Groves<sup>1</sup> state that the gastro-

enterologist is frequently confronted with symptoms referable to the abdomen that cannot be explained on the basis of pathologic changes in the gastro-intestinal tract. Exhaustive study and symptomatic management failed to relieve symptoms in a number of their cases. They, therefore, sought a possible explanation in the urinary tract in spite of the fact that urinary symptoms were lacking or entirely in the background, and produce an interesting series of cases as proof that frequent referred and complicating symptoms do occur.

Theoretically there is an irreducible minimum for errors in diagnosis. Frequently workers in one field must solicit the help of those interested in another before the diagnosis can be made, and as Braasch<sup>9</sup> states, it is unfortunate if either places himself aloof in his specialty. Faulty judgment in interpreting physical findings, undue reliance upon special laboratory data, unreserved acceptance of the patients statements, or a lack of appreciation that widely separated systems of organs may give symptoms or findings common to both, may contribute in part, or entirely, to the errors in diagnosis. It remains, however, that the vast majority of our mistakes are the result of an incomplete clinical investigation<sup>2</sup>.

The intimate relationship of all the abdominal viscera through their proximity, nerve, and blood supply, contributes largely to the confusing symptoms that arise.

Smith<sup>3</sup>, among numerous authorities, is one that maintains that since both the upper urinary tract and the organs of digestion are supplied by the vagus and sympathetic nerves, any disturbance of the kidney may be reflected through the gastro-intestinal tract.

Colby<sup>4</sup> has shown that the renal plexes which courses along renal arteries, where it probably anastomosis freely with the vagus before they enter the hilum of the kidney, then terminating about the glomerular capsules, the tubules and between the epithelial cells. He has also shown that the renal plexus connects with the sympathetic nerve supply of the stomach and intestines. There is also an anastomosis between the renal plexus and the aortico-mesenteric ganglia which supplies the stomach. The symptoms of pain in these cases may be most misleading; almost complete destruction of a kidney may take place without producing sufficient loin pain or discomfort to draw attention to the kidney. It has been estimated by Lower<sup>8</sup> that approximately ten per

\*Read before the Southwest Clinical Society, Kansas City, Missouri, March 11th, 1935.



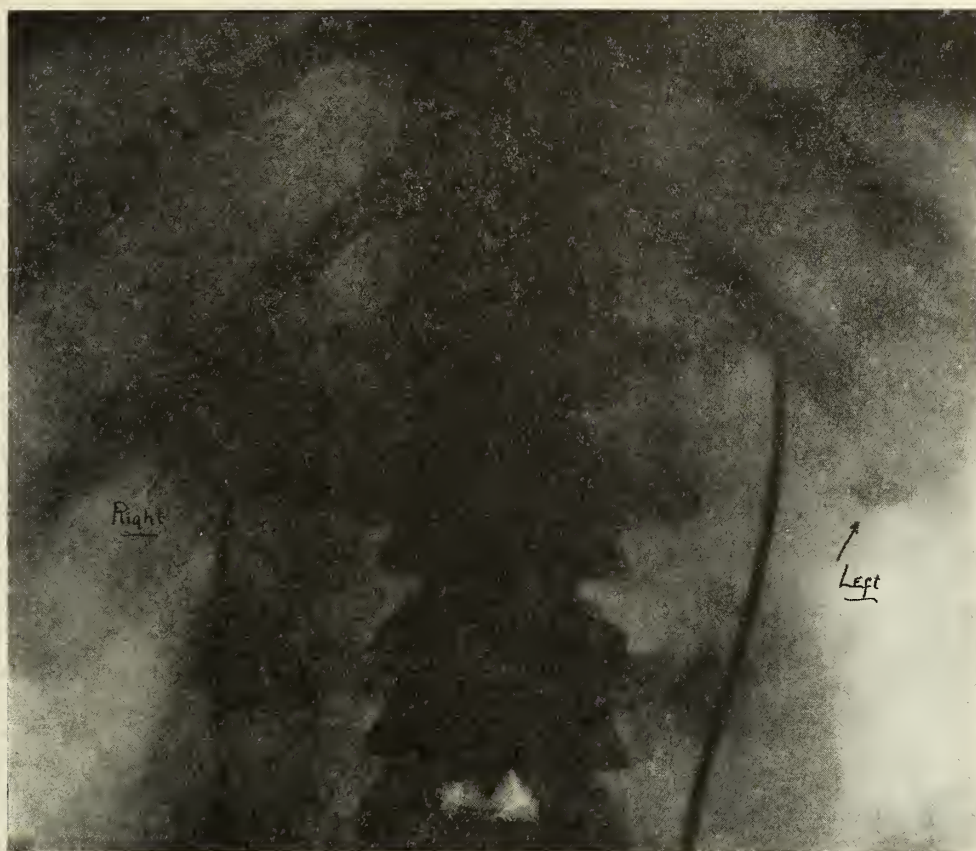


Plate No. 1: Primary K.U.B. showing calculi in both right and left kidneys

cent of all diseased kidneys are silent; there is no local pain in the kidney region, all the discomfort being referred to other organs.

The reflex disturbances arising in the right kidney and ureter are most likely to give symptoms in the stomach, duodenum, gall bladder, pancreas, right colon, and appendix region. The reflex symptoms from the left side are usually to the left abdominal contents. However, bilateral kidney lesions may give rise to only unilateral abdominal symptoms. It is not at all impossible for left renal calculi to give right sided abdominal symptoms and vice-versa.

Progressive pyonephrotic and hydronephrotic changes are very apt to be associated with recurrences of abdominal symptoms. These changes may occur in children as well as in the aged; the majority of such cases are found however between thirty and forty years of age. A very large percentage of such cases may not show pus in the single voided specimen. These changes usually start as a unilateral involvement, and if diagnosed early there is much that

can be offered the case to insure him a return to health.

Cecil<sup>5</sup> states in his series, that such confusing abdominal symptoms had existed that approximately one-fifth of his cases had been subjected to such operations as appendectomies, gall bladder drainage, oophorectomies, and abdominal exploration. Braasch<sup>9</sup> has made the statement that fifty per cent of the cases with right kidney or ureteral lesions that go to the Mayo Clinic have had previous operations on adjacent abdominal organs without recognition of the urinary tract lesion.

Mertz<sup>2</sup> contends that persistent pain and tenderness in the lower right abdomen unaccompanied by gastric symptoms and fever are so often the result of disease of the urinary organs that an appendectomy should not be done without assurance that that right kidney and ureter are free of disease. In abdominal pain due to urinary stone, in over one-third of the cases it will be centralized in the lower right quadrant.

It has been proven that pain may be a

rather deceiving element in renal or ureteral stone cases. It has been shown also that the position of the calculus may have little bearing on the termination of the pain reflexes. Bumpus and Gershom<sup>6</sup> found from a series of 1001 cases that 162 had ureteral stones; eighty-nine per cent of these had been diagnosed cholecystitis, and the remainder appendicitis.

Pyelonephritis or an acute urinary infection is a condition that is very often treated as a gastro-intestinal ailment. Theoretically this should not be so, but actually it is a fact. The reasons that can be enumerated for such an error are: Pain that is not typically renal in origin, gastric distress after eating; flatulency; nausea; vomiting; loss of weight; poor appetite; inability to eat certain kinds of foods; and worst of all, failure to make microscopic examination of the urine, and placing too much confidence in the findings of a single voided specimen. The inflammation along the urinary tract accompanying such a condition may result in a ureteritis with an intermittent retention of urine. The pain that accompanies such inflammatory reactions may be very acute, and if associated with the gastric disturbances and blood changes closely resembling those found in appendicitis, the picture may be very con-

fusing. If the appendix is removed or any operation performed in such a case, and later it is found that a small ureteral calculus or stricture was the cause of the urinary stasis and infection which produced the symptoms, it is certain to be difficult to explain to the relatives why there are recurrences of the symptoms following the operation.

In nearly forty per cent of all instances of nephroptosis producing pain, gastric symptoms alone are present, and one out of five of these will have had an appendectomy<sup>2</sup>. Nephroptosis when accompanied by slight jaundice may incorrectly be diagnosed as gall bladder disease.

Irritation of the renal nerves may cause painful persistent spasm of the large bowel. When a spastic colitis has no obvious explanation a complete urological examination should be made.<sup>2</sup> It has been our observation that a disturbed and irritable bowel, as evidenced by pockets of gas, occur much more frequently in those cases where positive upper urinary pathology was present.

Epigastric pain and reflex gastro-intestinal symptoms, when due to chronic renal disease, are often interpreted as evidence of primary disease of the stomach, duodenum, or bowel. When the symptoms suggest an ulcer, but the

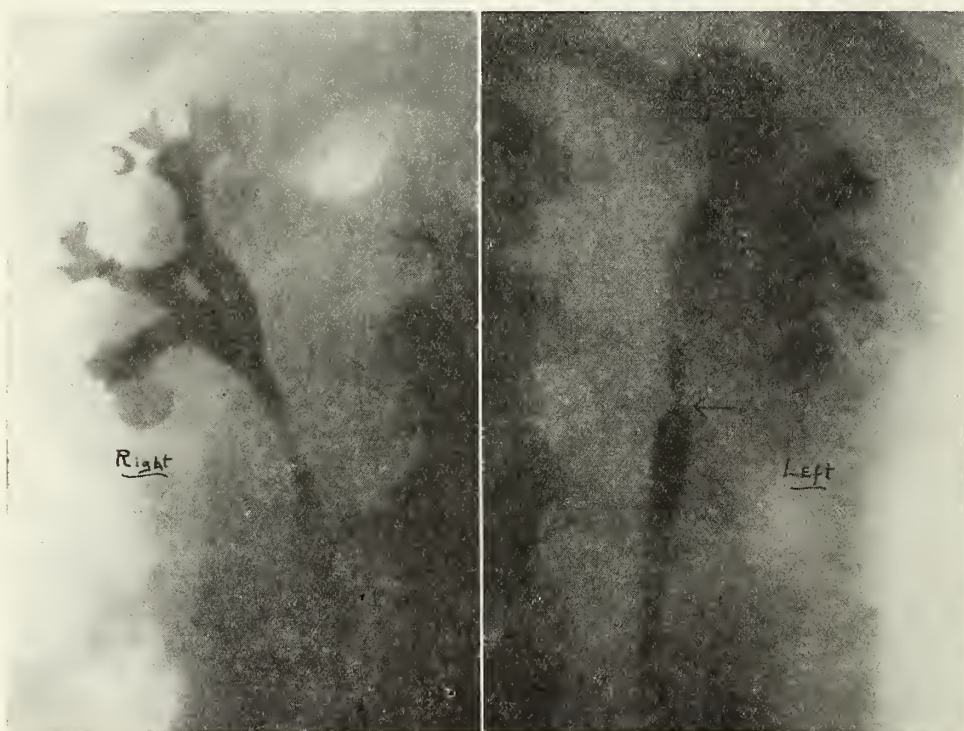


Plate No. 2: Pyelograms in same case showing stricture of left uretero-pelvic junction with dilatation of calyces



x-ray demonstrates no definite gastric or duodenal lesion, or when the gastro-intestinal disease is not relieved by accepted methods of treatment, chronic renal sepsis, urinary stone, and movable kidney should be eliminated.<sup>2</sup>

Naturally there may be coexistent pathology in the gastro-intestinal and urological tracts, and Stevens<sup>7</sup> thinks that the urologist should have some knowledge of all the pathological conditions of the abdomen and pelvis. In those cases however where the differential diagnosis is in doubt one usually has time for a cystoscopic and Roentgen ray study. It has been found that urologic investigation is indicated in approximately one-third of all patients entering the hospital with uncertain diagnosis. "These procedures can be accomplished in an hour's time and certainly the emergency must be exceptional which will contraindicate so little delay."<sup>2</sup>

#### CASE REPORT

Mr. B. V., white male, age thirty-two, railroad brakeman. Admitted St. Margaret's Hospital May 6, 1935. Dismissed May 15, 1935. C.C.: Pain in lower left abdominal region. P.I.: For the past year the patient has had attacks of gaseous discomfort, sour stomach, and heart-burn. At times he has had abdominal pains in various portions of the abdomen. The day before admission he began to have rather severe pain in the left lower quadrant, this was definitely relieved by soda and ginger, and he was free from pain until the day of admission. On this date at 4:00 o'clock in the afternoon he began to have pain in the same region. The pain gradually became more severe until he sought medical aid. An Rx provided temporary relief. Forty-five minutes later the pain returned. He took two enemas and then entered the hospital for care. P.H.: Essentially negative except for left herniorrhaphy fifteen years ago, and appendectomy eight years ago. F.H.: Negative. Physical Examination: B.P. 150/100; temperature 98.6; pulse seventy-six; respiration twenty-four.

Belching considerably and complaining of pain in left lower quadrant. Enema on admission increased discomfort. Vomited soon after admission. Physical findings essentially negative except for tenderness on palpation in left lower quadrant. Urine: Voided, specific gravity 1.014; alkaline; 1 plus albumin; negative sugar; occasional granular casts; negative blood; few pus cells.

Blood: Hb. 97; Rbc. 4,520,000; Wbc. 15,150; 88 per cent polys; 9 per cent small lymphs; 3 per cent mono. Blood phosphorus 2.8 mgm.; calcium 10 mgm.; Wbc. on dis-missal 10,150; 71 per cent polys.

Treatment: It was decided that an x-ray of the gastro-intestinal tract should be made. Radiographs of the stomach suggested some extra gastric irritation, and it was decided that gall-bladder visualizations were necessary. The colon showed no pathology. Radiographs of the gall-bladder showed no pathology of this organ, but a stone shadow apparently in right kidney. It was decided that the changes noted in the G.I. tract were reflex in character. Primary K.U.B. and pyelograms proved the presence of a stone in the right kidney and also a stone in the left kidney with a definite stricture at the left ureteropelvic junction, associated with dilatation of the ureter below the stricture and a mild degree of hydronephrosis of that kidney. The patient refused surgery at this time. He was relieved of pain in left side and the gastric disturbances following ureteral catheterization, and has been working daily now during the past five months.

The case reported presents pathology in the urological tract, that produced by reflex paths dominant symptoms in the gastro-intestinal tract. Sufficient evidence we believe is presented in this case to confirm the statements made with reference to the reflex abdominal areas most likely affected when pathology exists in either the right or left kidney or ureter.

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—JKMS—

The private practitioner who engages in medico-literary production for the public on his own initiative faces certain dangers which do not threaten scientific organizations. No matter how commendable his motives, he runs the risk of being misjudged by his colleagues and branded as a cheap publicity seeker unless he meticulously avoids any suggestion of advertising or self aggrandizement.—The New York Medical Week.

## SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS

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The operative measures employed in the treatment of pulmonary tuberculosis are, almost without exception, forms of collapse therapy. The surgeon attempts by operation to create the most favorable conditions under which natural healing processes may occur. The various forms of collapse therapy bring about an arrest of the disease by rest, relaxation or compression of the lung. Under ideal conditions fibrosis and ultimate replacement of the tuberculous tissue by scar takes place.

It seems strange that the surgical therapy of pulmonary tuberculosis has followed so many blind paths and has been so slow in developing. James Carson, a physician in Liverpool, as far back as 1822, pointed out rather clearly the physiological principles involved in collapse therapy. In one of his essays he states, "It has long been my opinion that if ever this disease (pulmonary tuberculosis) is to be cured, and it is an event of which I am by no means disposed to despair, it must be accomplished by mechanical means, or in other words by a surgical operation."

The present types of operation have been in the process of development only during the past forty-five years. Archibald of Montreal was the first to perform a thoracoplasty in America in 1912. In Graham's recent book he reports that some thirty-three hundred thoracoplasties have been collected from the literature. The mortality in this series was thirteen per cent, however, it varied greatly with different operators. These operations were done by many surgeons, and various techniques were employed. In the earlier days of thoracoplasty it was not uncommon to find that surgery was done only as a last resort, and operations were performed on patients who were essentially dying. It is fair to expect a lowered mortality rate with the accumulation of knowledge and the employment of an adequate operative technique. About one-third of cases operated upon are apparently cured, one-third improved, and one-third either unchanged, worse, or dead.

In order to be favorable for operative treatment the disease should be largely confined to one side. Pulmonary tuberculosis is rarely unilateral, and most of the patients coming to

operation present some signs of involvement of the opposite lung. However, if the process in the "better" lung is not extensive and is judged to be nonprogressive, it offers no contraindication to collapsing the chief lesion.

In suitable cases operation should be performed as soon as artificial pneumothorax has proven itself ineffective. The general condition of the patient must be such as to enable him to stand the strain of the operative procedure. The operation should not be postponed until the patient is beginning to decline. Thoracoplasty is offered to the "good chronic" which means that the patient has demonstrated a certain degree of immunity to the disease as evidenced by fibrous tissue reaction. The surgeon cannot offer much to a patient who is being overwhelmed by the acute exudative form of the disease.

Thoracoplasty undoubtedly holds the position of major importance in the surgical therapy of pulmonary tuberculosis, but many other effective procedures may be employed, singly, successively, or in combination. Too much emphasis cannot be placed on the importance of the selection of patients for operation. The internist, roentgenologist and surgeon must work in close harmony. The case of every patient with pulmonary tuberculosis should be reviewed at frequent intervals, not only to decide which patient should be operated upon, but also to decide what type of surgical therapy should be used in a given patient.

### OPERATIONS ON THE PHRENIC NERVE

The purpose of operations on the phrenic nerve is to paralyze the corresponding half of the diaphragm. A diseased lung may be partially put at rest by this procedure. This operation was recommended by Stuertz in 1911. He advocated simple section of the nerve. Since that time various modifications have been proposed. These include alcohol injection, crushing and avulsion. The operation is relatively minor, and can be done under novocaine anesthesia. The indications for phrenic nerve operations have not as yet been as clearly established as those for thoracoplasty. Its great value in certain cases has been clearly proven. The compression it brings about is comparatively slight. Its chief effect seems to be due to resting and relaxing the lung. It is in no way a substitute for thoracoplasty. Phrenic operation is the method of choice in



lower lobe lesions, when pneumothorax is impossible or has failed to accomplish the desired result. It may be indicated early in certain unilateral lesions when a free pleural space is no longer present. The most striking results are to be expected in the presence of solitary thin-walled cavities. It may be of value as an adjunct to thoracoplasty and in controlling hemorrhage. Temporary phrenic paralysis is apparently being used more often and permanent phrenic paralysis less often than formerly.

#### CLOSED INTRAPLEURAL PNEUMOLYSIS

Closed intrapleural pneumolysis was proposed by Jacobsen in 1913. The method consists in the cutting of adhesions, either with the galvanocautery or with a special electrode introduced through a trocar puncture in the chest wall. The cautery is guided by indirect vision through a specially designed thoracoscope previously introduced through the chest wall at another point.

Adhesions are almost invariably present in cases requiring pneumothorax treatment. The method of attempting to obtain a satisfactory pneumothorax by stretching the adhesions by means of high intrathoracic pressures is seldom successful and attended with serious danger. The presence of adhesions per se is no indication for operation as, in a large proportion of cases, they do not interfere with a satisfactory collapse. If one can, by severing offending adhesions, convert an unsatisfactory pneumothorax into a satisfactory one, the method becomes of value. This can be done in certain cases. Needless to say that all adhesions cannot be cut safely.

#### THORACOPLASTY

Efforts directed at mechanical compression of the diseased lung were first made in 1885 by de Cernville of Lausanne. This was the initiation of the method that is used today. Brauer was not satisfied with the amount of pulmonary compression that could be obtained by the thoracoplasties being done at that time. Instead of the limited resections practiced hitherto he proposed in 1907 the removal of the entire lengths of ribs II to X at one sitting. The operative shock was terrific and it was realized that the operation was highly dangerous.

Wilms and Sauerbruch advocated the removal of short lengths of ribs at their posterior ends. This gave a relatively great reduction

in chest capacity and could be performed without operative shock. They later combined the posterior resection with a resection of the first six or seven ribs anteriorly, operating in two or three stages.

Following these original operations, many modifications have been proposed and are still being proposed at the present time. The aim, of course, is to obtain the maximum number of cures with the lowest operative mortality. The results of the various procedures is still under discussion.

As Semb of Norway has pointed out that more than ninety per cent of the cavities which are treated by thoracoplasty are localized to the upper lobe, the most important problem in thoracoplasty is a free mobilization of the upper lobe. He, therefore, advocates the combination of thoracoplasty with primary apicolysis or pneumolysis, emphasizing extra-fascial severance of all bands tending to hold the apex. He reports collapse and disappearance of cavities in ninety per cent of patients operated upon by this technique. If the procedure were divided into stages, his mortality was between three and four per cent. The principles involved by this procedure seem to be based on sound reasoning.

Thoracoplasty is often feared as a mutilating procedure which results in permanent bodily deformity. As a matter of fact, when the patient is dressed in his ordinary clothes it is usually impossible to tell with any degree of certainty which side has been collapsed.

Following the operation the patient must still be considered and treated as a patient with pulmonary tuberculosis. It may be necessary for the patient to remain in bed for six months or longer depending upon individual needs. The ultimate beneficial effects of the operation may not be obvious for weeks or months.

The value of these operations has been clearly established in properly selected patients. But these are by no means the only procedures that are available for the treatment of a patient with pulmonary tuberculosis. Scalenotomy, extra-pleural packing, open intrapleural pneumolysis, intercostal neurectomy, ligation of the pulmonary artery, etc., all have their advocates. The value of these latter procedures has not been so clearly established as has that of operations of the phrenic nerve, closed intrapleural pneumolysis and thoracoplasty. The multiplicity of these operations suggests that surgeons are not entirely satisfied

with the results being obtained by any one method. This represents a healthy and commendable attitude.

It can thus be seen that patients suffering from pulmonary tuberculosis are no longer in the hopeless class. Artificial pneumothorax is now firmly established in this country, and where indicated is being used often and early, frequently with miraculous results. Surgical therapy has been slower in development and has been accepted with a great deal more caution, and rightly so. But it is well beyond the trial stage at the present time. It now becomes imperative for every physician with a tuberculous patient under his care to ask himself whether some form of therapy in addition to bed rest will benefit the patient.

### COCCIDIOIDAL GRANULOMA\*

J. V. VAN CLEVE, M.D.

Wichita, Kansas

A search of the literature reveals that a proven case of coccidioidal granuloma has never been reported in Kansas. I wish to report a case where the etiological mycosis (*coccidioides immitis*) was demonstrated by direct smears and by histological examination of the tissue.

#### REPORT OF THE CASE

C. W., a white male, age forty, was referred to my office April 22, 1935, by Dr. C. A. Dieter of Harper, Kansas. One week prior to this date, the patient had received a cut on the

dorsum of the first finger of his right hand while working in his garden. The same day he used this unbandaged hand in feeding meat mash to his chickens. The mash was a packing house by-product made from condemned cattle. The following day, the patient noticed tenderness, swelling and pain in this finger which became progressively and rapidly worse.

#### EXAMINATION

A well developed white male, age forty. Physical examination was essentially negative except the index finger on the right hand which presented on the dorsum a large acutely inflamed granulomatous lesion four centimeters in diameter. A definite black necrotic slough filled the center of the lesion, while the edges were rolled and acutely inflamed, with an erythematous halo extending a centimeter in all directions. A thick, creamy pus was present between the central necrosis and the inflamed rolled edges. The nail, (Figure 1) especially at the proximal end, was loose and undermined deeply into the matrix. Continuous pain was present and was exaggerated by pressure or leaving the arm dependent. The right epitrochlear and axillary glands were only moderately enlarged, but were not painful to palpation. There was no evidence of generalized lymph-adenopathy.

Temperature and pulse were normal. Blood count, including differential was within normal limits. Urine was negative. Direct smears of the pus revealed only staphylococcus and streptococcus; cultures on glucose agar and Sabaroud's media were negative except for contaminants. Blood Wasserman and Kahn were negative. Dark field was negative. Roent-



Fig. 1. Initial lesion of Coccidioidal Granuloma (6-3-35)

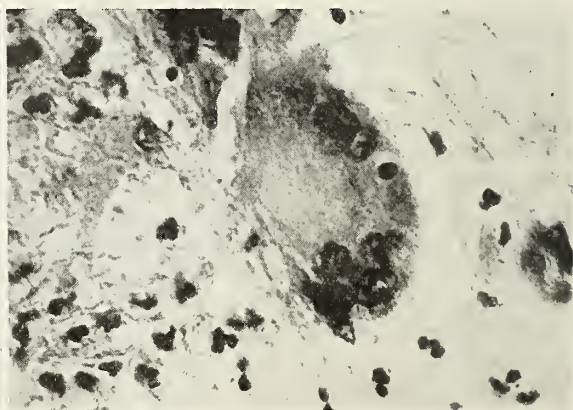


Fig. 2. Section from abscess in amputated arm. Giant cell containing fungus (oil immersion)

\*Presented at the November 11th, 1935, Staff Meeting of St. Francis Hospital.



gen examination of the chest revealed no pathology. A tentative diagnosis of infectious granuloma of unknown etiology was made. The patient was then seen by Dr. Thor Jager, who reported all negative laboratory findings and suggested hospitalization for study and treatment.

The patient entered Wesley Hospital on April 24, 1935, where large doses of potassium iodide (200 grains per day) were given by mouth. Foreign protein therapy was given every second day, and continuous hot fomentations were applied locally. The lesion subsided rapidly and the patient was discharged May 11, much improved. While in the hospital, numerous laboratory procedures were carried out, and a repetition of those previously mentioned revealed nothing. Smears for tubercle bacilli were negative.

The patient returned May 25, 1935, much worse than before. He entered St. Francis Hospital on May 25. Three hyperpyrexia treatments were given along with fomentations and potassium iodide, and the patient again improved. He was discharged June 2. During his stay in the hospital, Dr. C. A. Hellwig took charge of the laboratory work. Every conceivable study was made in an effort to find the causative factor. All of these tests were negative except for staphylococcus and streptococcus. The patient re-entered St. Francis Hospital on June 7, and at this time smears revealed the fungus, which was characterized by deeply stained protoplasm, enveloped by a spherical double contoured capsule. They differ from blastomycetes in that they do not multiply by budding, but form endospores. Both Dr. Hellwig and I, working independently, were able to find them in large numbers.

The patient was started immediately on tartar emetic intravenously and filtered x-ray therapy. It soon became apparent that extension to other parts would occur unless the process of the disease was stopped. Dr. E. S. Edgerton and Dr. H. R. Hodson were called in consultation, and amputation of the finger was done July 7, the wound being left open. Extension along the fascial planes of the arm soon developed and were incised and drained as they occurred. The pain became unbearable, although at no time was the temperature or white blood count markedly increased. Amputation of the arm was performed by Drs. Edgerton and Hodson on August 28, and healed by primary intention.

## HISTOLOGY

Post-operative histo-pathological examination of the tissue revealed the usual picture of infectious granuloma plus giant cells containing the fungus as seen in Figure 2.

The patient has remained well since, although we are cognizant of the fact that recurrences in other parts of the body have occurred four years after apparent cures.

## CAUTERY SURGERY IN THE TREATMENT OF CANCER

W. BEN STEWARD, M.D.

Topeka, Kansas

Statistics show a marked and steady increase in cancer, it being second to heart disease as a cause of death. In view of this fact the medical profession is faced with the responsibility of examining carefully every authentic method advanced for its treatment and relief.

The statement is made by Dr. J. G. Missildine and Dr. J. V. Van Cleve<sup>1</sup> that, "The object of any treatment (of cancer) is to destroy every malignant cell and if this can be accomplished, regardless of the method, a permanent cure is the result." This is very true, but we are still faced with the question of which method to employ.

Surgery is the oldest method used. It is only in comparatively recent years that the application of heat by electric cautery has occupied a place of importance in the treatment of malignancies.

In 1933 it was my privilege to spend several months in the Malignancy Clinic of the Los Angeles County Hospital of California. After seeing the work of Dr. James F. Percy<sup>2</sup>, whose use of the cautery is well known, I became an advocate of his method in the treatment of all accessible malignancies.

The important point in technique is to apply heat effectively to the cancer and at the same time avoid destruction of normal tissue. Herein lies the secret of successful cautery surgery. Cancer cells are not scattered if removed with the cautery because the hot knife destroys them.

It has been demonstrated by Rhoda Erdmann<sup>3</sup> that when cancer cells have been transplanted from one field to another they have more vitality. I wish to emphasize that there

is no way of operating with the cold knife and feeling sure that the cancer cells have not been scattered.

In speaking of surgery with the cautery I do not mean the use of just a red hot iron. The misunderstanding of the necessity for control of the degree of heat is one reason the cautery is often condemned. Different types of cancer require variation in heat and in the same case cauteries of different temperatures are needed. Some are used as knives, some for hemostasis and some for the diffusion or dissemination of heat, each requiring a different temperature.

The heating unit of the cautery must be large enough to resist the wet tissue in which it is being used; it is necessary to have at least three, and preferably four cauteries with various points and blades, the heat being controlled by rheostats under the supervision of an efficient assistant.

In making incisions the cautery must be at a high temperature, a little above a dull red. If it is to be used for hemostasis a lower grade heat is needed. In cervical and uterine treatments a very low grade heat is used in order to produce a diffused heat instead of a carbon, for when carbon is formed the heat is confined to a local area. In uterocervical work, a water cooled speculum is used to protect the vaginal walls and urethra.

The cautery, at a low temperature is introduced well into the malignant mass and held in such a position that the heat will be well disseminated. Dr. Percy<sup>2</sup> recommends "that all tissues be made normally movable that are fixed by pathology." When this is done it is assumed that all adjacent cancer tissue is killed.

If the lesion to be treated is on the surface, the most satisfactory results will be obtained by the application of a suitably sized cautery tip to the mass, through the entire thickness of the skin until it is melted down and destroyed. This method may also be employed in the ulcerated and broken down cancers of the breast which have become offensive. These cases can be cleaned up and the patient made more comfortable.

It is rather difficult to explain the idea of a painless cautery, but with the proper technique, malignant moles and epithelioma can be excised without pain. The cautery treatment is governed by the heat of the cautery and the anatomical location of the lesion.

The postoperative care of cautery surgery is simple yet more prolonged than with the

cold knife. There is practically no post operative pain, morphine being required only in exceptional cases. It is not uncommon to operate a radical breast or external tumor and find the patient in good spirits, asking for food and suffering no inconvenience.

Dressings of soft fluffed gauze applied and preferably not disturbed for one week in the larger operations, such as breast and where large surfaces are exposed. In small cautery work, such as moles, small epithelioma and lips, a heavy carbon is formed by the cautery to cover all raw spaces and no dressing is required.

#### CASE REPORTS

Mrs. L. D., age twenty-one, female, housewife, white, married three years. Family history: Essentially negative.

When patient was twelve years of age, she had an injury to the left ulna at about the junction of the middle and upper third. This became infected and healed very slowly. In about three years there was a breaking down in the scar which according to reports, resembled a periostitis. This was opened and drained for one year and healed. There was no soreness for about a period of two years, when it broke down again. At that time it was operated on under local anesthesia, apparently an incision and drainage.

This patient came under my care in August 1934. A biopsy showed the lesion to be a fibrosarcoma. An x-ray was taken which revealed only a mild periosteal involvement. This mass was completely enucleated with the Percy cautery and all surrounding tissue was melted down. Skin flap was raised by cautery, brought together and closed. There was no pain whatever following this operation. The wound healed nicely and there has been no further trouble. The skin is movable over the bone and there is little scar.

Mrs. M. G., age twenty-three, white, female, housewife, married four years, no pregnancies. Family history unimportant. Her menstruation has been irregular, with severe pain at each period.

In February 1934 she had quite a distinct hemorrhage. At that time she came under my care and was put under ordinary palliative treatment for hemorrhage with no improvement.

On pelvic examination, the uterus was found to be enlarged, the ovaries and tubes normal



and no fixation. The cervix was very large, resembled a cauliflower growth and bled very freely. This condition was treated with ordinary methods but continued to grow and bleed. Patient was becoming very anemic.

A biopsy was taken with the following report: "Infected cervical polyp showing no definite malignancy and considerable acute and chronic inflammatory reaction superimposed."

This patient was referred to the hospital for cautery surgery under general anesthesia. Water cooled speculum was inserted into vagina, cervix crowded down into speculum. A large Percy cautery was introduced into cervical mass with a very low grade of heat. This mass was cooked for a period of thirty-five minutes. At that time it was perfectly soft and white and there was no bleeding. The idea was to apply heat to the cervix until growth was destroyed. Patient had slight nausea and vomiting for the first four days. After that time there was no pain or discomfort and patient left hospital in one week.

Postoperative Examination: Two months after operation cervix was perfectly normal and soft, showed no scar tissue. Patient had gained in weight and was feeling well.

In November, patient appeared at my office reporting she had missed her October menstruation. Examination since then has revealed the fact that she was pregnant. Later, delivery was normal with no further trouble or laceration of cervix.

Mrs. G. J., age twenty-seven, white, female, housewife, married four years, mother of one child two years old. Family history: Essentially negative.

At about the age of sixteen or seventeen she noticed a small lump which resembled a mole on the back, in the interscapular region over the seventh cervical vertebra. The lesion continued to grow until it was about the size of an English walnut. This was removed about two years ago under local anesthesia by another physician. This healed very kindly and seemed to be well for a period of about six months, when a recurrence appeared in the scar. This continued to grow for eighteen months at a rapid rate. At the time of the operation it was the size of an orange or about nine cm. by eleven cm. Antero-posteriorly the tumor extended outward six c.m., extending inward to the facia over the spinous processes. This growth was rather reddish blue in color quite

vascular with hard fibrous tissue. On section this was diagnosed fibro sarcoma.

Technique of enucleation: Field was prepared as for ordinary surgery. A sharp pointed Percy cautery was used. Puncture wounds were made rather deeply around the tumor, then a sharp cautery was used at a high grade of heat, making an incision completely around the tumor, which cut off the external blood supply. The tumor was then dissected out with a hot cautery, there being no loss of blood. The floor of this cavity was cooked at a slow heat completely sealing all blood vessels. There was no attempt made to close this wound and healing by granulation was very satisfactory.

There is one thing in the technique of cautery surgery that I wish to emphasize. Do not let the fatty oil extend down over the surrounding skin because these extensions will blister and give pain to the patient. Otherwise there is no pain and but little soreness following cautery surgery.

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2. Dr. James F. Percy, Cautery Surgeon of the Malignancy Clinic of the Los Angeles County Hospital of Los Angeles, Calif.
3. Rhoda Erdmann's statement of demonstration in Sajous's Analytic Cyclopedia of Practical Medicine, Vol. 2, pg. 787.

#### REMOVAL OF FOREIGN BODIES IN THE EXTREMITIES

WILLARD J. KISER, M.D.

Wichita, Kansas

The difficulty of removing small foreign bodies from the hands or feet, arms or legs of patients who present themselves, is appreciated by every surgeon called upon to perform this apparently simple operation. To be able to cut directly onto a small foreign body in an extremity makes a simple brief operation but a miss of a millimeter can be enough to make an otherwise easy operation not only complicated and difficult but protracted and tedious.

The more common foreign bodies are radio-opaque. They are usually found to be small pieces or clips of steel, sewing needles, pieces of broken lead-glass, short segments of wire or other metal, pieces of lead pencil and grains of emery in the hands or fingers; sewing needles



Figure 1. Photographic view of localizing needles inserted into epidermis over site of foreign body

Figure 2. Perpendicular x-ray view showing localizing needles and foreign body

or phonograph needles in the feet; insulin or hypodermic needles in the calf or thigh or in the arm.

Foreign bodies, when no infection develops, may do little or no harm except to the patient's peace of mind. It is best to remove all foreign bodies from the hands and fingers and from the feet. All others are removed from localities where they are likely to be a menace.

The importance of removing indelible leads from the hands such as are not infrequently seen in children and office workers has been frequently pointed out by Kanavel because these cases at times develop a chemical necrosis which is out of all proportion to the degree of injury.

When foreign substances, however small, are located in or near the tendons or ligaments of the hand they are painful and interfere with hand movements. Moreover, blood-vessels, tendons or nerves may be permanently injured if penetrated. Very small particles in the hand are often annoying to the patient and in the foot are frequently painful when walked on.

Frequently wounds of entrance of small foreign bodies are indistinguishable from other

scratch marks on the hands of industrial workmen. The patient often does not know the site of entry and the direction of travel of a body in tissues of variable resistance is even more of a mystery. The object of search is often located some distance from its supposed location.

A method of localization of foreign bodies which I have found to greatly facilitate their removal was originally described by McNealy and Willems. I used this method numerous times while working with the senior author. The method has saved me many embarrassing moments of search at the operating table. The wound of exploration may be made very small by its use and needless to say healing by primary union is much more apt to occur when tissues have not been devitalized by exploration.

The first step toward the exact localization of an offending object is performed by sticking two ordinary needles into small portions of the superficial horny layers of the skin so that they cross at right angles to each other. The point of crossing is placed over the site where we believe the foreign body to be. These needles do not enter the deeper layers of skin and cause no pain or bleeding if properly placed. Figure 1 illustrates the method.

The second step is to take two x-ray films with the needles in place. These views must be taken in exact planes perpendicular to the crossing of the needles and exactly lateral so that one of the needles, preferably the transverse, shows as a single point or very short line.

With these two views accurately taken localization becomes a simple matter. Taking the case shown here as an example, we see in Figure 2 that the foreign body lies about four millimeters proximal to the crossing of the needles and nearly half of it in each proximal quadrant. In Figure 3 we find the least distance between the needle and the foreign body to be nine millimeters giving us the exact depth of its penetration. Moreover, with the combination of these two views we are also shown the direction of the long axis of the foreign body.

By following each step in this analysis it becomes an easy matter to make an incision which will be exactly over the foreign body. The incision is planned to come directly down on a foreign body and at right angles to its long axis.

In a recent experience a boy of sixteen came to the office carrying A. P. and lateral x-rays showing the presence of a needle in his arm





Figure 3. Lateral x-ray view of foreign body in flexor tendon of left index finger showing depth of foreign body in relation to needles.

near the elbow joint. A prankster at school while playing with a needle stuck into a lead-pencil rubber had jabbed the needle into his elbow from behind and broken it off. Using the two views already taken, needles were placed over the expected site and localizing x-rays taken showing the needles to be 1.2 centimeters away from our crossed needles. Even with ordinary A-P and lateral views to help place the needle in this case the site was poorly judged. After taking the localizing films we were able to cut onto the needle immediately without exploration.

In foreign bodies about joints with much adjacent soft tissue, as for example the thenar eminence, one is apt to have to make tedious explorations for foreign bodies unless localizing x-ray views are taken, because one cannot properly place the incision to coincide with either the site or angle of entrance of the x-rays, unless comparative points are present.

After careful localization the patient is taken to the operating room and the field surgically prepared with the pins still in place. An ischemic field is absolutely essential for easy removal of these objects. A Dakins tube makes a good finger tourniquet. When the hand is involved a Martin bandage is run from the

fingers to the arm and an Esmarck constrictor applied above the elbow. With a foreign body in the foot the Esmarck is placed above the knee.

The needles are removed when the surgeon is ready to make the incision. The smaller the object the more sure must one be to cut directly upon it. Usually a grating sensation can be felt as the blade strikes the foreign object. In a completely ischemic field the dark object may usually be seen and lifted out of the wound. At no time does the operator introduce his fingers or other than his few instruments into the wound. The wound is closed with a single stitch and dressed. The incision usually heals promptly by primary union.

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—JKMS—

The report by Usilton, on the trend of syphilis and gonorrhea in the United States provides evidence of the enormousness of the venereal disease problem. Annually there are apparently four per thousand individuals in the United States with a fresh syphilitic infection and eight per thousand with acute gonorrhea. An additional four per thousand seek treatment for the first time after their syphilitic infection has become late, and another four per thousand present themselves to a physician for treatment of chronic gonorrhea. Thus, more than a million persons seek medical treatment for syphilis in the United States each year, while more than 1,500,000 persons are treated annually by physicians for gonococcal infection. Eighty-four per cent of patients treated for early syphilis in five of the large clinics devoted to syphilis failed to remain under treatment until the disease was rendered non-infectious. In fact, surveys conducted by the American Social Hygiene Association reveal that twice as many persons with venereal disease seek treatment across drug-store counters as come to a qualified medical source for treatment. If two-thirds of patients with fresh syphilis who seek authorized medical treatment lapse from treatment before they become noninfectious to others, if more than 500,000 persons each year do not seek treatment until one or more years after acquiring syphilis, and if two-thirds of those who acquire the disease seek "drug-store treatment" or receive no treatment, nearly two million persons in the United States are either inadequately treated or fail to receive treatment for syphilis every year. Usilton also makes the significant statement that approximately 186,000 of the potential mothers of this country have active syphilis, with the likelihood of resultant loss of the child four times more often than among nonsyphilitic mothers. These figures provide emphasis to Usilton's statement that "syphilis as a treatment problem ranks first among the contagious diseases of man."—*J. A. M. A.*, December 28, 1935.

## PRESIDENT'S PAGE

To The Members of The Kansas Medical Society:

The Committee appointments are announced elsewhere in this issue of the Journal. These appointments were made by studying the particular need of each Committee after consultation with its Chairman. It has been our desire first to best do the work of the Committee; second, to have the appointments as nearly as possible geographically located so that they might serve the purpose of the Committee; and lastly, the desire has been to distribute these appointments so that every section of the State will have its proper representation.

Particular attention has been paid to the Medical Economics Committee. A new arrangement has been made, and additional members added to the Committee. The idea being that there would be about ten sections working under one general Chairman, each of whom would have under him representatives from each county in the district tributary to him. We believe the problems of the Medical Economics Committee are of such importance that there should be an active working member in each component society in the state upon that Committee. If there has been any territory overlooked, it has been due to the fact that we are unacquainted personally or with the capabilities of the physicians in that community. Committee Chairmen met at Topeka as a Committee of the whole to outline the plan of work for the year. We are hoping that much can be accomplished.

Various sectional meetings are being planned for the different parts of the state. Each member of the Society should make it his duty to attend these meetings whenever possible, thus lending the advantage of his presence and his counsel in matters of particular interest.

The total number of members in The Kansas Medical Society in 1935 was 1,431. With the addition of some seventy more members we can have another delegate, as there is one delegate to the American Medical Association allowed for each 750 component members. We wish it might be possible to add a hundred or a hundred and fifty more members by the middle of March. With that end in view, we are asking the entire membership to act as a Committee of the Whole to see to it that the full eligible ethical membership of each county is brought to its top enrollment. We have that number of physicians who are ethical and eligible to the Society. Let us each bring in a new one if possible, and have them come in with their dues paid by the middle of March. We will then be automatically granted a third delegate. It is particularly worthwhile this year, at this meeting in Kansas City at which our Society is co-host with Missouri to The American Medical Association.

H. L. Snyder, M.D.



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## EDITORIAL

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### THE COUNCIL MEETING

This edition of the Journal publishes the proceedings of the semi-annual meeting of the Council which is our board of directors, carrying on the business of the Society between the annual meetings. The Council receives the reports of standing committees on such important matters as legislation, economics and cancer survey, reports of executive secretary's office, the defense board and the official paper. It decides questions of policy and strategy, it evaluates the work done since the last meeting and plans the activities for the coming months.

The officers of the component county societies were urged to attend the meeting just held and the comments of those who accepted the invitation were most interesting. They were unanimous in expressing their interest and surprised at the amount of work routinely done by the State Society. If our members will read the minutes of the meeting they will enjoy a similar educational treat without the necessity of braving the heaviest snow storm of the winter which occurred on the day of the mid-winter meeting. The reports show many laudable activities being prosecuted, an alert central office, a sound financial condition, and the membership at one of the highest points in the history of the Society. It will require the concentrated efforts and cooperation of all our members to improve this showing during the year just begun.

### FOOTBALL CASUALTIES

The subject of football injuries comes up every year after the season of play is over. The newspapers gather the casualty lists and spread them in type before the public eye. It is pleasing to find discussion pertaining to these injuries, based on scientific investigation, appearing in medical literature. Dr. G. K. Cotton,

in a recent issue of Colorado Medicine presents a survey made in the Rocky Mountain Conference. He found that football injuries in colleges are decreasing because of the better methods of training and supervision given to players. The most frequent injuries were those involving joints, especially the knee. The survey shows that fractures and dislocations rarely occur in college football and when they do the nose is the most common site.

A paper on "The Heart of The Athlete," by Dr. Raymond S. Grossman, published in the January issue of the Iowa State Medical Journal gives the results of investigations into the effects of severe exertion upon hearts of men engaged in college athletics. He states that reliable research work on normal hearts has proved that heart strain is not possible, that acute dilation does not follow exertion, that the athlete's heart does not become enlarged after long continued participation in athletics and that athletes are not prone to develop early cardiac disability and die because of excessive exertion indulged in while in school. This may well be accepted by physicians who observe athletes in training and have had the opportunity to follow them up in later years.

Many of the usual injuries of football can be prevented by special exercises to strengthen parts prone to give way under strain and by suitable protection and support. The athletes should be subjected to competent physical examination to eliminate those who are unfit and to detect any existing heart condition which precludes excessive effort. But what the team physicians seem not to see is the mental effects on the athletes of the ordeal of intense athletic competition, with the glamor and the over importance placed upon the outcome of intercollegiate games. Many of the students involved in playing football work their way through school. They are given jobs by which they pay their way. They work early and late. They attend classes and practice sessions. If they have energy left, they study. But always before their eyes and in their dreams are the

plays, the signals, the game. Defeat is failure and victory is glory and justification.

What is the effect upon the mental health of students majoring in football? We should like to see a study from this aspect of the game, carried out by mental hygiene experts, with a view of the remote consequences as well as the immediate effects upon this select group of college students.

### NATIONAL HEALTH SURVEY

A National Health Survey is being made by the United States Health Service. Announcement to this effect was made several weeks ago. In fact, *The Journal of the American Medical Association* on October 5, carried editorial reference to the project, and published a facsimile of the blank to be used by the enumerators employed to make the survey. Recently the survey has been undertaken in Texas, which is the occasion for these remarks.

The purpose of the survey is, in short, to study the causes of chronic illness and disabilities that usually appear after middle life, in the expectation that out of the information pertaining to these conditions will come helpful ideas as to how they may be curtailed. It would appear that the extension of life expectancy that we have been bragging so much about has been attained by the suppression of infectious and contagious diseases, and that, in fact, the life span has not been greatly elongated. Heretofore our endeavors have mainly been to prevent contagious and infectious diseases, almost to the exclusion of organized attack on the chronic and disabling diseases which have killed so many people, including, be it said, and sometimes in disproportionate numbers, members of the medical profession.

A study of the blank to be used in the house to house canvass involved, discloses that, aside from the usual data pertaining to the members of the household, including vocation, membership in sick benefit organizations, and artificial

immunity against smallpox and diphtheria, a record will be made of all disabling illnesses occurring in the family during the recent past, which have lasted as much as seven days. Data will also be secured as to the amount of nursing service that has been had, whether or not hospitals have been used, and whether visits have been made to health clinics or centers; something of the living conditions and family income, and such handicapping diseases as asthma, neuralgia, cancer, diabetes and tuberculosis, as well as handicapping deformities, such as loss of limbs and the like, hernia, deafness and blindness.

It is contemplated that when all of this information has been secured by the censustaker, it will be scientifically compiled by the United States Public Health Service, at which time the physicians in attendance on any of the families in any of the illnesses or disabilities mentioned, will be asked to report, confidentially, upon the matters referred to, these reports to be maintained as confidential and not published.

All of this work, we understand, is to be maintained in cooperation with state, county and city health departments, and with state and county medical societies. The procedure in contacting the medical profession in this connection, so we are told, will be somewhat as follows:

Where a family reports to the enumerator that there has been an illness, or disability, within the purview of the survey, the question is asked whether it will be agreeable for the supervisors (who are physicians) to get the facts in the case from the physician in attendance; if so, the name and address of the physician is secured. The central office, which will be in charge of physicians from the United States Public Health Service, will then mail to the physician named, a blank requesting the sort of information desired, with the information that the patient has given permission for the report. The blank sent to the physician will be in accordance with the character of the illness or disability referred to.



For instance, if a tumor is reported, the blank will elicit the information as to the type, character and so forth, of the tumor, and what was actually done about it. Heart disease, female troubles, and the like, will all be dealt with on specialized blanks. The physician will be paid twenty-five cents for each report, and he will be furnished with addressed and franked envelope.

We are advised by the Surgeon General of the United States Public Health Service, that this survey is merely an extension of the work his Service has been endeavoring to do through many years, the extension being made possible through appropriation from federal funds set aside for increase employment. It is said that some 30,000 workers will thus be taken from the relief rolls, and that 750,000 families, in nineteen states, will be contacted. Surveys will be made in the following communities in Texas: Dallas, Houston, Weatherford, and Wichita Falls. Another medium-sized community will be selected later.

The question that confronts us now is whether or not, and if so to what extent, the medical profession will lend its cooperation in this rather large enterprise. We are not in a position, very naturally, to speak for the State Medical Association in the matter of policy. We have, however, gone to the trouble of interviewing such members of the Executive Council of the State Medical Association as are in a position to speak, and who could be reached, and it is the rather general opinion that, as a group, we can do no less than to lend our cooperation. Whether the Executive Council, and subsequently the House of Delegates, will confirm this view, we are not able to say. In this connection, we may make the observation in passing, that in acquiescing we have nothing to lose and all (if anything) to gain. The survey is going to be made whether or not we give it our approval. It will be successful, we are sure, to the extent that we cooperate.

There are just two reasons why we should not cooperate. First and foremost of these

is the apparent fact that we usually do not gain anything by throwing in with governmental enterprises of this sort, and particularly at such a time as this, when every effort is being made by certain groups to socialize the practice of medicine. The other reason, of less import, is the possibility that the groups just mentioned will take advantage of the data thus assembled, and use it in putting over some plan of socialized practice of medicine.

We have become satisfied in our own mind that we can at this time afford to ignore these two reasons.

In response to the allegation that the data resulting from this survey will be used by our socialistically inclined friends to support their argument in favor of socialized medicine, the Surgeon General of the United States Public Health Service states that no data is being gathered pertaining to the cost of medical care, except in the state of Georgia, where the State Medical Association has asked for such data. As for that, it may easily be that those in high places who are favoring sickness insurance expect to use the material secured in this survey in proving that medical service is not being adequately distributed, and that it is costing entirely too much. If this be true, perhaps it behooves us to keep in close touch with the survey, and see to it that either the statistics are shown to be faulty (which could easily be the case), or else get busy in correcting any discrepancies in medical service which are thus apparently disclosed.

It will be remembered that the whole movement is in the hands of doctors of medicine, and that conclusions, if any, from the data thus so extensively gathered, will be drawn by physicians and not by welfare workers and/or socialists. It would seem to be to our advantage that the data be accurate, and that logical conclusions be drawn therefrom, and it is hard to see how we can contribute towards the accuracy of the data, and have anything to do about the conclusions that

are to be drawn, if we do not cooperate, and from the beginning. Certainly we would have no look-in should we oppose the movement.

We have heretofore raised the objection to the plan that competent enumerators will likely not be forthcoming in such large numbers as will be required, if they must come from relief rolls, and that if these enumerators, or any reasonable proportion of them, are of the type constitutionally antagonistic to scientific medicine, such as advocates of christian science, chiropractic, and the like, the data secured is likely to be biased in the particular direction of their respective obsessions. We have been assured that no enumerator will be employed who does not appear to be competent, and none will be employed who appear to be biased in favor of any cult or peculiar philosophy of life; that all who are employed will be carefully trained before taking the field, and that the blank itself is so arranged that it will check itself in this regard.

We think we should at least differentiate between the survey in question and other surveys that are being made as an employment project, some of them in the field of public health. In at least one county in New York state, a survey of deaf children of pre-school age is to be made at a cost of more than \$10,000.00. The State Medical Association of New York has opposed such a survey, as being ridiculous and useless. It is held that the number of deaf children in the particular county in question is already known, and that nothing could be learned about these unfortunate children before the age of three, and they get into school at five. The survey in fact is to cover children only between the ages of three and five. Objection to the survey is that it qualifies under the recently coined word, "boondoggling."—Texas State Journal of Medicine. December 1935.

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## LABORATORY

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Edited by J. L. Lattimore, M.D.

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### THE DIAGNOSIS AND DISMISSAL OF THE SYPHILITIC

A. D. GRAY, M.D.

Topeka

Our experience during the last fifteen years in the treatment of syphilis in private practice and in the Venereal Clinic has lead us to one significant conclusion—that there is an astonishing absence of agreement as to just what constitutes an adequate course of treatment, and on what evidence a patient may be pronounced cured. If we accept as fact the statements made by the patients as to what they have been told, or if we may judge by the record of the treatment they have received, we would be lead to believe that a "cure" may be attained from a course of treatment varying from a few intravenous injections of some arsenical to a program of more or less constant treatment for the rest of their lives. It is needless to say that both statements are entirely wrong. That many receive excellent advice and treatment goes without saying, but the fact remains that a fairly large per cent of these patients receive inadequate treatment.

Paralleling this tremendous variation in what is considered a proper amount of treatment is the diversity of advice given patients as to what constitutes proof of a cure or the need of any further observation and treatment. The question of cure must take into consideration the age and social status of the individual. What may be considered sufficient treatment in a man of seventy-five is quite different than that in an individual of twenty, who have many years ahead of him with the probable responsibility of procreation. Also, we must bear in mind that there is a distinct difference between a clinical recovery and a pathological cure. Warthin states that although he found lesions of latent syphilis in 501 of 1,675 post mortems, he failed to discover a single instance of a syphilis "perfectly healed." Obviously, however, many of these cases must have been clinically and serologically cured.

In assuming the tremendous responsibility of advising the patient as to the need for more treatment, we must not fail to take into con-



sideration his actual physical condition, the amount of treatment received and the results of paintaking laboratory tests. Too much importance cannot be attached to serological tests in the treatment of syphilis, but as is true of any other laboratory procedure, these tests are only valuable in proportion to the intelligence by which they are interpreted. To make a diagnosis of syphilis on the strength of one slightly positive Wassermann or Kahn and in the absence of a history of infection or clinical evidence of the presence of the disease is unthinkable, and by the same token, to prolong treatment over a long period of years as Stokes says "to their economic and physical ruin," in the attempt to change the serological findings is a tremendous mistake.

For the sake of brevity, the following rules, which will stand the closest scrutiny, might be suggested:

1. Repeated negative dark field examinations of a suspicious primary lesion should never be accepted as a final conclusive diagnosis, but should always be followed by a serological test four weeks after the appearance of the sore, and two others at two-week intervals if these are negative.

2. A blood Wassermann or Kahn taken for treatment control should be submitted to the laboratory only after the patient has been on a rest of two to four weeks. To accept a negative Wassermann taken immediately after treatment as an index to the true condition of the patient is an error.

3. In early syphilis, and after six to nine months of active treatment, the patient may be considered cured if after a year, without any treatment whatever, his physical examination is negative, and he has had negative serological findings every two months through the year of observation.

4. In an old syphilis, the same rule may apply except that the period of treatment based on any standard program should have been over a period of two or three years.

5. In all cases, the spinal fluid examination should be made before the case is dismissed, and in all neuro-syphilis, laboratory check-ups should consist of spinal fluid examinations as well as blood, as many of this type will run a consistently negative blood Wassermann and Kahn and a positive spinal fluid.

6. In each and every case of early syphilis, we recommend a blood Wassermann once a year for five years, and in old syphilis, a Was-

sermann every year for life. Not all agree that this is essential, but we believe it is certainly advisable.

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## MEDICAL LITERATURE

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Edited by Will C. Menninger, M.D.

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### ACCESSORY SINUS INFECTION

Manges writes of the prevalence of sinus infection and its responsibility for a large number of complications in other parts of the body, particularly in the ears and lungs. Because the subjective symptoms are frequently absent when the sinus is well-established, whereas the subjective symptoms of the mastoid and lung complications are usually striking, the presence of the sinus disease is often overlooked. Examination by various writers have shown, however, that in a large percentage of these cases, sinus infection is also present. Sinus disease is also present in a large percentage of asthmatics.

The infection of the middle ear from the sinuses is probably carried there thru the eustachian tube, either by being blown in or by continuity of tissue. There are various routes of invasion to the lungs from the sinuses.

The first stage of sinus disease is the common head cold, and it is during this period that most can be gained by proper treatment. Diagnosis of sinus disease should be based on direct inspection, on x-ray examination, and on symptoms of the various complications. The early ear and lung lesions respond to proper treatment of the accompanying sinusitis.

Manges, Willis F.: Accessory Sinus Infection; Its Relation to Mastoid and Lung Infections. *Annals of Internal Medicine* 9:547-553, November, 1935.

### MECHANISMS OF HEALING IN COLLAPSE THERAPY

Because the results of collapse therapy are often "inconstant, unpredictable, and disappointing," Pinner has made this the subject of intensive study. In this paper, he briefly summarizes the factors held responsible for healing of tuberculosis lesions. These factors, he believes, are: (1) Elastic relaxation diminishes or eliminates elastic strain on diseased tissue and

thus enhances scar contraction and closure of cavities; (2) rest of foci of disease is produced by the mechanism of selective collapse, by splinting or immobilizing the thoracic cage, or by procedures enforcing localized relaxation and immobilization; (3) compression (positive pressure pneumothorax) helps to collapse stiff-walled cavities and to stretch adhesions; (4) tortuosity of bronchi and the slowing of the air stream in a collapsed lung aid in diminishing bronchogenic spread; (5) slowing of the blood and lymph stream prevents hematogenous and lymphatic propagation. Diminution of the lymph stream may reduce toxemia; (6) it may be, altho it is not proved, that relative anemia and lymph stasis stimulate fibrosis; (7) reduction of the oxygen tension and increase in the carbon dioxide tension in the pulmonary tissue may produce conditions less favorable for the life of the tubercle bacillus.

Pinner, Max: The Mechanisms of Healing in Collapse Therapy. *Annals of Internal Medicine* 9:501-515, November, 1935.

#### LIP-STICK DERMATITIS

A case of dermatitis produced by lip-stick is presented by Baer. He finds that such dermatitis, altho rarely reported, is common. By studying the process of the manufacture of lip-stick and by making patch tests with the product in its various stages of completion, Baer found that perfume is the irritant in the case of lip-stick dermatitis, and methyl heptene carbonate, a product of castor oil, the specific factor. An account of the processes in the manufacture of lip-stick and perfume is included.

Baer, Harry Leonard: Lip-Stick Dermatitis. *Archives of Dermatology and Syphilology* 32:726-734, November, 1935.

#### SYPHILIS

Moore's summary of the literature on syphilis for the past eighteen months covers every aspect of this disease. This fifty-page paper is indispensable to all interested in this subject.

Moore, Joseph E.: Syphilis—A Review of the Recent Literature. *Archives of Internal Medicine* 56:1015-1065, November, 1935.

#### CANCER AND METABOLISM

Beard presents a study of cancer as a problem in metabolism and endocrine imbalance in the

pathogenesis of some types of cancer. Altho it is difficult to distinguish between cause and effect in the latest experimental work on cancer, the author presents the following concepts as worthy of serious consideration by students of this problem: (1) In malignant tumors the metabolism of carbohydrate is abnormal, resulting in low respiration and high glycolysis; (2) Lipoids and cholesterol are definitely increased, the latter especially in carcinoma of the skin; (3) Massive doses of ultraviolet radiation may produce cancerous lesions about the eyes, ears, and head of the experimental animal; (4) Hydrocarbons containing the phenanthrene group and estrin are both carcinogenic and estrogenic; (5) The chemical relationship of the bile acids, sterols, sex hormones, and carcinogenic hydrocarbons is established; (6) Injections of prolan may inhibit the growth of some types of tumors; (7) Extracts of adrenal cortex, thymus and spleen and insulin may also have a retarding influence on some types of experimental tumors; (8) Sulphydryl (-SH) may bear a close relationship to the problem of cancer. A bibliography of 116 references is included.

Beard, Howard H.: Cancer as a Problem in Metabolism. *Archives of Internal Medicine* 56:1143-1170, December, 1935.

#### IONIZATION IN HAY FEVER

Warwick's method of ionization as a treatment for hay fever is explained, confirmed, and elaborated upon by Bryant. The Warwick method produces at least ninety per cent cures when cure is defined as "cessation of all hay fever symptoms for one season." However, Bryant found that only one patient of his series treated in 1934 found treatment necessary again this year. Others expressed willingness to repeat the treatment if necessary as they had received more relief from it than from any other they had received. Patients with perennial asthma should be selected for this treatment with great caution as various workers have found that some asthmatic patients have been made worse by ionization. If the nasal septum is greatly deviated, a submucous resection is indicated, and the patient should be advised that ionization treatment may be given six weeks following the operation. The technic of the ionization treatment is described in detail and emphasis placed on the need for proper equipment and complete and careful packing of every recess in the nose. In order to avoid



after treatment pain, Bryant recommends 3 grains of sodium amylal the night before treatment and again about one hour before treatment, and capsules containing codein, phenacetin, and aspirin administered after treatment. He also advises that the last meal before treatment be light, that a mild eye wash and bland nose drops be prescribed, and that the patient be cautioned against forcibly blowing the nose until the jelly-like membrane in the nose has separated. In the case of children, twenty-four hour hospitalization with chloroform anesthesia is recommended.

Bryant, Ben L.: Ionization in Hay Fever: Indications, Technic, Scope. *Archives of Physical Therapy, X-Ray, Radium* 16:613-617, October, 1935.

### ANEMIA IN ACUTE LEUKEMIA

Jaffe presents five cases of anemia with acute leukemia. These cases indicate that at least in some instances leukemia is preceded by an excessive destruction of blood cells and that the patient may succumb to the anemia when the leukemic changes are still too insignificant to account for the lack of normal blood cells. No information as to the causative agent of the initial anemia is given by these cases. On the basis of a hematologic and histologic study of these cases, which revealed a striking evidence of destruction of blood and a marked disproportion between the severity of the anemia and the extent of the leukemic changes, it is suggested that an initial abnormal destruction of blood cells may be of significance in the pathogenesis of acute leukemia.

Jaffe, R. H.: The Nature of the Anemia in Acute Leukemia. *Archives of Pathology* 20:725-741, November, 1935.

### EPIDEMIC MYALGIA

Epidemic myalgia, or pleurodynia, altho still comparatively rare in the United States, is occurring with increasing frequency in the southern and eastern states. During the last epidemic, which occurred in Boston in 1933, Rector had the opportunity to study nineteen cases of this disease in children.

General characteristics of the disease in adults are an abrupt onset; excruciating pain, usually thoracic, sometimes epigastric, in origin and exacerbated by cough, movement, or deep inspiration; temperature of 101 to 104 F; anorexia, headache, nausea and vomiting; and

possible pains in the back and extremities. The average duration is from forty-eight to seventy-two hours, altho a recurrent type is sometimes seen in which one or more exacerbations occur every few days. Complications are rare and recovery has been invariable.

Instead of the thoracic pain experienced in adults, Rector's findings show that in children abdominal pain is the predominant symptom. Children are also frequently afflicted with the recurrent type of the disease.

Little is definitely known of the etiology and therapy of this disease, but Rector suggests that quinine may be of considerable prophylactic and therapeutic value in this disease.

Rector, John Mott: Acute Epidemic Myalgia or Pleurodynia. *American Journal of Diseases of Children* 50:1095-1112, November, 1935.

### SKIN DISEASES AND WEATHER

That the type of biologic and cutaneous reaction is conditioned by the individual constitution and degree of instability of the autonomic nervous system is the conclusion of Schmidt. Furthermore, he believes that the environmental factors capable of precipitating cutaneous symptoms are numerous, and that the weather is an important one of these. He describes ten cases of alopecia areata, herpes zoster, psoriasis and gastric ulcer, pityriasis rosea, and ulcus vulvae acutum in which the relationship between the onset of the condition and the weather are marked. Graphs giving the temperature and barometric pressure clearly show these relationships.

Schmidt, Frederick Rehm: Skin Diseases and the Weather. *Archives of Dermatology and Syphilology* 32:781-786, November, 1935.

### NERVE DEGENERATION IN PERNICIOUS ANEMIA

Mills makes a study of forty-five cases of pernicious anemia, treated during a period of seven years, with regard to nerve degeneration. In all but one case of the series, evidence of subacute combined degeneration of the cord presented itself at the time of the first visit. Three fundamental rules for adequate therapy were followed in this series: (1) the erythrocyte count must be normal at all times; (2) the modal erythrocyte diameter must be at

or below the normal value; macrocytosis is considered "ipso facto" an indication of failure of treatment; (3) therapy is at once increased if at any time the patients complain of any deviation in their state of well-being or if there appear any symptoms referable to the nervous system as dysesthesia. As a result of this study, he concludes that spinal cord degeneration is present in practically all cases of pernicious anemia, but that it rarely tends to progress if treated adequately and striking clinical improvement may occur. Adequate therapy is regarded as that which will restore the blood to normal morphologically as well as numerically.

Mills, Edward S.: The Effect of Therapy on Nerve Degeneration in Pernicious Anemia. *American Journal of Medical Sciences* 191:72-80, January 1936.

#### FEVER THERAPY IN GONORRHEAL ARTHRITIS

Experience with hyperpyrexia in the treatment of gonorrheal arthritis leads Bierman and Levenson to the conclusion that this is the most effective treatment available. In all sixteen cases, this method was successful in causing the eradication of the causative organism and the disappearance of pain. Restoration of function with complete joint mobility occurred in thirteen cases, partial restoration in one, and very little increased mobility in two. All of these cases had previously been treated by various methods without lasting improvement. Hyperpyrexia should be administered as early as possible in order to avoid permanent pathologic changes and deformities.

The method used was as follows: The patient was immersed in a water bath, the temperature of which was gradually elevated from 100 to 102 to 107 or 108 F. within about an hour. When a rectal temperature of about 105 was achieved, the patient was transferred to a bed covered with a hood containing a battery of sixty watt electric light bulbs. Diathermy was then administered to secure additional pelvic heating. The active electrode was inserted in the rectum or vagina and the dispersive electrode was divided into four sections to avoid overheating of the skin and subcutaneous fat. In the female, the rectal electrode was kept in place one and one-half hours while the current was gradually increased so that the hotwire meter read 1500 to 2000 milliamperes. After this electrode was removed, the vaginal electrode was inserted. The temperature was raised to 111 F. and maintained

for three and one-half hours. In the male, the electrode was inserted in the rectum and kept in place for three to four hours. The metal electrode was water-cooled to prevent overheating the rectal mucosa. The average number of treatments for males was 3.5 and for females, 2-1. The average interval between treatments was 2.7 days for females and 3.22 days for males.

Bierman, William & Levenson, Carl: The Treatment of Gonorrheal Arthritis by Means of Systematic And Additional Focal Heating. *American Journal of Medical Sciences* 191:55-65, January 1936.

#### HYPOTHYROIDISM

Lee discusses hypothyroidism from clinical experience and formulates a few conclusions. There seems to be no precise parallelism between hypothyroidism and debility. The administration of thyroid and the apparent correction of the hypothyroidism may vary in the subjective effect on the patient from no result to a result indicating no apparent cure. The relationship of hypothyroidism to mental states is far from clear. The thyroid is only one of the links of the chain of endocrine glands and the relationship between mental states and the whole endocrine system is not yet clearly and definitely evident. Amenorrhea or disturbed menstrual function; various vasomotor disturbances, some of the odd irregular slight fevers; some of the allergic states; and some of the dermatoses often show definite hypothyroidism, yet thyroid therapy in these cases is often not beneficial. There is no precise parallelism between the level of the low basal metabolic rate and the success of thyroid therapy. Thyroid therapy at times cannot be tolerated by these patients. Experience shows that there are cases in which the administration of all the usual preparations of thyroid gland either (1) does not restore the basal metabolic rate to normal; (2) does not benefit the patient; or (3) cannot be tolerated on account of such symptoms as headache, nervousness, palpitation, etc. Hypothyroidism seems rarely to be a disease entity, but certainly a common symptom. It is one of the fragments that make up the pattern of the functional entity of the individual. It is a symptom, however, which should be and can be frequently satisfactorily treated.

Lee, Roger I.: Hypothyroidism: A Common Symptom. *Annals of Internal Medicine* 9:712-716, December 1935.



## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

### MEDICAL SERVICE QUERY

1. The American Foundation Studies in Government are asking numerous medical men over the country for informal and confidential information concerning the present organization of medical service.

Reliable information verifies the fact that the Foundation has nothing to advocate, and no preconceived objectives beyond gathering and classifying facts.

The Foundation further promises to distribute the summarized information to the contributors and not to make public use of same.

No formal questionnaire is provided, and only a free expression requested on such points as the following are noted, ie.: Is any change in the present medical organization and service needed? If so, in what direction do you think it should be—in the form of insurance, voluntary or compulsory? In greater state participation of medical service? In government subsidiaries without government administration? In extension of Public Health Service? In the extension of community hospitalization, group clinics, public health nursing? If you consider it desirable or imperative that the medical profession through the medical societies should control standard public health appointments, etc., how do you think that this end could best be achieved?

The following letter was received by the Executive Secretary from the Foundation requesting that he set forth the views of The Kansas Medical Society on the social aspects of so-called "medical economics":

January 11, 1936

"Dear Sir:

We are addressing you, as Executive Secretary of the Kansas Medical Society, in the hope that you will cooperate in an inquiry in which leading members of the medical profession throughout the country are participating. I am writing also to Dr. Hassig, as President of your Society, and also to the chairman of your committee dealing with medical economics. We have already received evidence of cooperation from a number of state medical societies. One at least has sent a joint statement giving the conclusions arrived at by committees working under direction of the state group.

The object of this inquiry is to bring the competent medical opinion of the country to bear more effectively upon the discussions of the organization of medical care than it has been brought to bear heretofore. We feel that a comprehensive analysis of what the present situation really is should have preceded the proposal of far-reaching reforms that have been agitated. The persons most obviously competent to contribute to that analysis are the men who have for years been doing the medical work of the country, and who have therefore had the most direct opportunity to see wherein the present system does or does not work. Our own group has nothing to advocate and its present inquiry does not even proceed from a conviction that any essential change in the present organization of medical care is indicated.

In order to put you in touch at once with our procedure, I am enclosing a copy of the letter which we have sent to a group of medical men in every state who have been in practice for twenty years or more. The fact that men who are undoubted leaders in medical science throughout the country have replied fully and frankly indicates perhaps that they share our view that a non-medical organization with no social program of any description is in a position to be peculiarly serviceable in the present circumstances. The professional organizations are well represented in the replies. Dr. McLester, the present President of the American Medical Association, who was here last month and who may be here again shortly, and Dr. Mason, the President-elect, who spent an hour here recently, are among those who have shown a sympathetic interest in the purpose and possibilities of the inquiry and have announced their own intention of participating in it.

If you share our belief that the result of this inquiry should illumine the whole complex and difficult situation, will you outline to us the degree to which your state organization has considered the social aspects of medical or so-called "medical economics" and what conclusions, partial or formal, it may have reached? In particular, if your group has considered any definite plan or experiment and has any observations to make in regard to it, we should be glad to have any information you will send us.

We present these requests for your cooperation the more freely because it is clear, even at this early stage, that the result of this inquiry should be definitely serviceable in focusing attention upon those essential factors of the problem which must be taken into account before "solutions" of any nature can profitably be arrived at.

Sincerely yours,

Esther Everett Lape,  
Member in charge.

2. As stated, all investigations verify the facts that this Foundation merits the response

they request, and has the approval of our state organization.

3. Request is hereby made to every member of The Kansas Medical Society to forward at once an informal letter to the central office, at Topeka, stating your views upon the requests set out above or any related ideas that you may have. Your replies to him will be treated confidentially, summarized, and the classified results used by the State Committee in answering this appeal.

### PRESCRIPTION WRITING VS. PHARMACEUTICAL PRESCRIBING

Who prescribes for your patients?

Everyone of you will immediately answer, "I do my own prescribing," or "I dispense my own medicine."

Do you? Does the fault lie in your medical instruction? Are the pharmaceutical companies guilty? Or does the blame rest upon you?

Have you ever considered what the practice of prescribing pharmaceutically prepared preparations has done to the art of prescription writing and the practice of medicine?

Isn't it a fact that the so-called patent medicines must be of such a character that they will not produce any harmful effects to any individual; otherwise, the popularity of that preparation would soon be condemned by the laity and thus fail to produce satisfactory returns to the company? Such companies naturally know that a certain percentage of the people will receive some benefits from their preparation, and so long as they do not produce harmful effects they can overcome the failures to produce results by proper advertising methods.

Isn't it a fact that hundreds of the compounded remedies that the various pharmaceutical companies present to you through their detail representative are compounded on essentially the same premise and their preparations combined with your judgment will produce satisfactory results in sufficient number of cases to bring them handsome returns.

Who takes up the slack? The druggist of course. In every prescription department can be found hundreds of items. Most of them have been placed there within a few hours after the detail representative has made his regular

tour among the doctors. These items are multiplied by the number of detail representatives and the frequency of their visits. It is quite the natural trend for the physician to demand the latest preparation presented to him by this detail man, and the result is that previous preparations for that same type of ailment is soon forgotten. Thus the druggist is compelled to stand the loss on such a practice.

Such a system of dispensing these preparations quite naturally necessitates the druggist charging a much higher percentage of profit on the current prescription that he is filling. His overhead and expenses mount up as these forgotten items accumulate on the shelves.

Whose judgment is the best? Yours or the pharmaceutical company's? If you have once been taught the principle of prescription writing and then fall into the habit of following the line of the least resistance and let the pharmaceutical companies write your prescriptions, compound the preparations, and recommend to you how and when to use it, especially when many of these compounded preparations are advertised through the newspapers, placards in the drug stores, and over the air by these same companies, have you used your best judgment in treating the case and justified the continuance of your respected position in the opinion of your patient? Most certainly not. You have educated the individual to prescribe for himself and his friends. You have encouraged the druggist in his contemptible habit of counter prescribing, and ruined some of your business.

It has been stated by good authorities that proper knowledge of a very limited number of common drugs is sufficient to aid any physician in successfully rendering treatment to his patient. Do you really believe that the paid employee of some pharmaceutical company can write a better prescription than you can? Assuming that they compound their preparation from the same ingredients that you desire to use in treating your case.

By this pernicious habit of writing such a prescription, or orally recommending to the patient that he go to the drug store and call for some prepared item, the physician has done untold harm to the practice of medicine and has really benefitted no one except the companies that prepared them. If you consider this seriously then review a few simple rules for writing a prescription. Get out your materia medica and learn the uses of just a few



of these simple drugs, and start writing your own prescriptions. It will permit the druggist to carry a stock of relatively inexpensive ingredients, and it will further augment your standing in the eyes of your patients.

If you feel that some of these compounded preparations are of merit, and certainly some of them are, it is quite improbable that the same compounded preparation will meet the requirements in every case. Therefore, for this reason, as well as others mentioned, it behooves each one of us to add to, or alter in some way, such preparations before any particular patient gets the medicine that he is directed to take.

More power and credit to the physician who does write his own prescriptions.

## NEWS NOTES

### 1936 COMMITTEES

Dr. H. L. Snyder, President, has announced the following committee appointments for the current year:

#### AUXILIARY

E. J. Nodurfth, M.D., Chairman.....	Wichita
C. A. Boyd, M.D.....	Hutchinson
W. G. Emery, M.D.....	Hiawatha
Earle F. Clark, M.D.....	Belle Plaine
N. C. Morrow, M.D.....	Parsons

#### CONTROL OF CANCER

F. R. Croson, M.D.....	Clay Center
N. E. Melencamp, M.D.....	Dodge City

(Note: The above members were re-appointed to fill their expired terms.)

#### CONSTITUTION REVISION

E. C. Duncan, M.D., Chairman.....	Fredonia
E. G. Brown, M.D.....	Topeka
H. L. Chambers, M.D.....	Lawrence
Arthur Fegtly, M.D.....	Wichita
O. P. Davis, M.D.....	Topeka
G. R. Hastings, M.D.....	Lakin

#### HOSPITAL SURVEY

E. S. Edgerton, M.D., Chairman.....	Wichita
L. D. Johnson, M.D.....	Chanute
R. W. Vandeventer, M.D.....	Wellington
Marion Russell, M.D.....	Great Bend
W. C. Lathrop, M.D.....	Norton
Ward Weltmer, M.D.....	Beloit
O. W. Miner, M.D.....	Garden City

#### MATERNAL AND CHILD WELFARE

John L. Grove, M.D., Chairman.....	Newton
Charles Jameson, M.D.....	Hays
Roy Russell, M.D.....	Dodge City

J. H. A. Peck, M.D.....	St. Francis
E. G. Padfield, M.D.....	Salina

#### MEDICAL ECONOMICS

F. L. Loveland, M.D., Chairman.....	Topeka
J. F. Gsell, M.D.....	Wichita
W. N. Mundell, M.D.....	Hutchinson
L. V. Dawson, M.D.....	Ottawa
W. R. Dillingham, M.D.....	Salina
Harry Lutz, M.D.....	Augusta
O. W. Davidson, M.D.....	Kansas City
H. E. Marchbanks, M.D.....	Pittsburg
Geo. O. Speirs, M.D.....	Spearville
B. A. Nelson, M.D.....	Manhattan
O. A. Hennerich, M.D.....	Hays

(Note: This Committee was increased by four members and will include a sub-committee plan of organization as described elsewhere in this issue of the Journal.)

#### MEDICAL HISTORY

W. S. Lindsay, M.D., Chairman.....	Topeka
E. D. Ebright, M.D.....	Wichita
H. C. Sartorius, M.D.....	Garden City

#### SCHOOL OF MEDICINE

L. G. Allen, M.D., Chairman.....	Kansas City
L. S. Nelson, M.D.....	Salina
A. R. Chambers, M.D.....	Iola
Ivan Burkett, M.D.....	Ashland
L. R. McGill, M.D.....	Hoisington

#### NECROLOGY

J. T. Axtell, M.D., Chairman.....	Newton
E. E. Morrison, M.D.....	Great Bend
C. M. Vermillion, M.D.....	Pratt

#### PUBLIC HEALTH AND EDUCATION

H. L. Chambers, M.D., Chairman.....	Lawrence
F. A. Kelly, M.D.....	Winfield
V. E. Chesky, M.D.....	Halstead
John Sherman, M.D.....	Chanute
E. D. Ebright, M.D.....	Wichita

#### PUBLIC POLICY AND LEGISLATION

E. C. Duncan, M.D., Chairman.....	Fredonia
J. F. Hassig, M.D.....	Kansas City
E. C. Morgan, M.D.....	Clay Center
Alfred O'Donnell, M.D.....	Ellsworth
W. F. Bernstorff, M.D.....	Winfield
H. L. Chambers, M.D.....	Lawrence
H. L. Snyder, M.D.....	Winfield

#### SCIENTIFIC WORK

H. L. Chambers, M.D., Chairman.....	Lawrence
L. B. Gloyne, M.D.....	Kansas City
L. L. Bresette, M.D.....	Kansas City

#### STORMONT MEDICAL LIBRARY

Ralph M. Fellows, M.D., Chairman.....	Topeka
D. A. Bitzer, M.D.....	Washington
Paul Conrad, M.D.....	Hiawatha

#### BRINKLEY HEARING

John R. Brinkley's appeal to the United States Circuit Court of Appeals in his case against the Kansas Board

of Medical Examination and Registration was heard in Oklahoma City, Oklahoma, on January 21 and 22 before Judge George T. McDermott, Topeka; Judge Robert E. Lewis, Denver; and Judge Orie L. Phillips, Denver.

A decision is expected during March.

Members of the Board of Medical Examination and Registration who attended the hearing were: Dr. J. F. Hassig, Kansas City, and Dr. C. H. Ewing, Larned. Dr. L. F. Barney, Kansas City, was also present as the complainant witness. Brinkley did not attend.

### CANCER CONTROL PROGRAM

Following a study of possibilities during the past six months and approval by the Council of an expense budget in the amount of \$750.00, the Committee on Control of Cancer has announced that it will sponsor a Cancer Control Program consisting of a series of post-graduate and public meetings at various geographical centers in the state.

Arrangements have been completed to obtain:

Dr. Burton Simpson, Director of the New York Institute for Malignant Diseases, New York, New York;

Dr. Charles F. Geschickter, Head of the Department of Surgical Pathology, Johns Hopkins University, Baltimore, Maryland;

Dr. F. L. Rector, Representative of the American Society for the Control of Cancer, Evansville, Illinois; as speakers for the entire week commencing March 30, and present plans provide for their attendance at the following meetings:

March 30, Chanute: Scientific meeting—2:00 P.M. Public meeting—8:00 P.M.

March 31, Wichita: Scientific meeting—2:00 P.M. Public meeting—8:00 P.M.

April 1, Dodge City: Scientific meeting—2:00 P.M. Public meeting—8:00 P.M.

April 2, Hays: Scientific meeting—2:00 P.M. Public meeting 8:00 P.M.

April 3, Salina: Scientific meeting—2:00 P.M. Public meeting—8:00 P.M.

April 4, Topeka: Scientific meeting—2:00 P.M. Public meeting 8:00 P.M.

The scientific sessions will be open to members of the Society and their guests, and are to consist of cancer topics of general interest to all physicians. The public meetings will include lay information relating to prevention, early recognition, and cure of cancer. No admission charge is to be made at any of the meetings.

It is the hope of the Committee that all members will arrange to attend the scientific meeting most accessible to their location, and that they will encourage their patients and acquaintances to attend the public meetings.

### ECONOMICS SUB-COMMITTEES

Pursuant to a recommendation of the Medical Economics Committee, approval was granted at the recent meeting of the Council for an extension of membership and activity of that Committee.

Membership of the Committee has been increased to eleven, and present plans provide for each of these members to serve as chairmen of sub-committees. The sub-com-

mittees will consist of one member from each county medical society, and each chairman will be geographically accessible to the members of his group for ease in holding frequent meetings.

It is the hope of the Medical Economics Committee that this method will afford greater representation in the solution of medical economics problems and also, through a distribution of subjects to the various sub-committees, that at least ten problems may be handled simultaneously.

### MEDICAL CREDIT BUREAU

The Medical Bulletin, official publication of the Sedgwick County Medical Society, announces the establishment, effective February 1, of a Medical Credit Service Bureau in Wichita. The Bureau which will be owned and operated by that society, will be utilized to assist physicians in collecting accounts and compiling general credit information.

Mr. Harry A. McGinley, a credit man of Wichita, has been selected as manager. The offices of the Bureau are in conjunction with the executive office of the Sedgwick County Medical Society, and sufficient equipment and stenographic assistance has been obtained to permit immediate operations.

Officials of that society believe that many possibilities are offered in this project and that future developments may make possible an extensive service to include installment and other payment plans. The experiment will be watched with interest by many other county medical societies in the state.

### NEW LICENSEES

The following Kansas licenses were granted by the Board of Medical Examination and Registration at its recent midwinter meetings:

By Examination:

Ball, Wilbur Guy—Dennis, Kansas—University of Nebraska.

You, Estridge Wonsik—Fort Worth, Texas—Creighton University.

Moorhead, Frank Allen—Neodesha, Kansas—Northwestern University.

Wright, Hobart Huston—Larned, Kansas—Northwestern University.

Myers, Thomas Twidwell—Corning, Kansas—Rush Medical College.

Morgan, Vance Frederick—Liberal, Kansas—University of Oklahoma.

Nelson, Chester Martin—Oberlin, Kansas—University of Colorado.

Portier, Rodney Harcourt—Kansas City, Missouri—Meharry Medical College.

Smith, James Sylvester—Kansas City, Missouri—Howard University.

Brewer, Henry Hampton—Kansas City, Missouri—Howard University.

Westbrook, Paul Arthur—Columbus, Kansas—University of Oregon.

By Reciprocity:

Husband, Myron Williams—Manhattan, Kansas—University of Minnesota.



Bascom, Kellogg Finley—Manhattan, Kansas—University of Minnesota.  
 Bradley, John Warwick—Hutchinson, Kansas—University of Iowa.  
 Stoll, John Boer—Clay Center, Kansas—University of Iowa.  
 Kinnamon, Clarence Horace—Topeka, Kansas—Keokuk Medical College.  
 Braze, Alexander—Liberal, Kansas—University of Wisconsin.  
 Burkhardt, Edward Arnold—Kansas City, Missouri—University Medical College.  
 Edmonds, Trenouth Wright—Horton, Kansas—Northwestern University.  
 Casebeer, Harry Lee—Augusta, Kansas—University of Nebraska.  
 Landis, Walter Elam—Lawrence, Kansas—University of Nebraska.  
 Garvey, James Edward—Atwood, Kansas—Creighton University.  
 Cody, Geo. Lenier—Sawyer, Kansas—College of Medical Evangelists.  
 Corwin, William W.—Topeka, Kansas—Western Reserve University.  
 Evans, John Frank—Kansas City, Missouri—Meharry Medical College.  
 Sauberli, Harry Albert—Hutchinson, Kansas—Vanderbilt University.  
 Hansen, Stephen John—Garden City, Kansas—University of Illinois.  
 Morris, David Gordon—Grainfield, Kansas—University of Oklahoma.  
 Wahl, Harry Roswell—Kansas City, Kansas—Johns Hopkins University.  
 Weigel, Bernard John—Victoria, Kansas—Creighton University.

The central office has need for extra copies of the January, 1935, April, 1935, March, 1935, and September, 1935, issues of the Journal.

If any members do not intend to file these copies and would be willing to forward them, their assistance will be greatly appreciated.

### COMMITTEE CONFERENCE

A conference of Committee Chairmen was held at the Hotel Jayhawk in Topeka on January 29.

Plans were made at this meeting for each Chairman to hold an early meeting of his Committee for organization and institution of activity and a list was prepared of the projects which the committees will attempt to accomplish during the current year.

A detailed account of the 1936 committee programs will be published in the March issue of the Journal.

### NORTH-WEST REGIONAL CONFERENCE

Dr. F. L. Loveland, of Topeka, will present a paper entitled "Standardization of the Activities of the Committee on Medical Economics of the Mid-West and

North-West," at the North-West Regional Conference to be held in Chicago on February 16, 1936.

Other papers to be presented at that event are as follows: "The Social Security Act and It's Relation to The Medical Profession," by Dr. T. V. McDavitt, American Medical Association, Chicago, Illinois; "Reciprocal Relations Between State Medical Societies," by Dr. Harold M. Camp, Secretary, Illinois Medical Society, Monmouth, Illinois; "Interprofessional Relations in the County," by Dr. Fred Moore, Chairman of Committee on Public Policy and Legislation, of the Iowa State Medical Society, Des Moines, Iowa.

### GREENWOOD COUNTY PLAN

The physicians of Greenwood county recently entered into a contract with the county commisisoners wherein the county agrees to pay a sum of \$16,200.00 during 1936 for provision of medical attention to indigent persons.

The funds will be paid in a lump sum to the physicians who will in exchange furnish hospitalization, medicines, and medical care upon a free choice basis to all regularly registered relief clients.

The physicians were able to complete the transaction after a study of information showed that the county had expended \$21,000.00 in 1934 and \$18,000.00 in 1935 for similar services on a basis of designated physicians.

### COUNCIL MEETING

The following are the minutes of the mid-winter meeting of the Council held at the Hotel Jayhawk in Topeka on January 8, 1936:

Officers present were: Drs. H. L. Snyder, President; J. F. Hassig, retiring President; H. L. Chambers, Secretary; Geo. M. Gray, Treasurer. Councilors present were: Drs. L. F. Barney, H. N. Tihen, A. C. Armitage, N. E. Melencamp, E. C. Duncan, Marion Trueheart, R. T. Nichols, and Alfred O'Donnell. Other members present were: Drs. F. L. Loveland, A. W. Fegly, L. V. Dawson, C. C. Nesselrode, W. E. Janes, Geo. W. Davis and W. M. Mills. Clarence G. Munns was present as Executive Secretary.

Dr. J. F. Hassig extended his appreciation to the officers, councilors and Society members for the assistance and cooperation given him during his presidency in 1935.

The minutes of the Council meeting under date of July 28, 1935, were read and approved.

Dr. Geo. M. Gray presented a report of the financial condition of the Society. A motion was made and seconded that the report be accepted.

Dr. H. L. Chambers, Secretary, presented a report concerning secretarial functions of the Society. A motion was made and carried that the report be accepted.

The following report was submitted by the Executive Secretary:

To the Members of the Council:

We respectfully submit the following report for the period since the last meeting of the Council:

1. Membership.

The records of the Society show a total of 1428 members for 1935, and an accounting of dues sub-

stantiating that amount has been made to Dr. Geo. M. Gray.

Copies of the official membership report for the new year were forwarded to the secretaries of the county medical societies under date of December 23, and the 1936 membership cards are ready for distribution.

A survey was recently instituted, under the direction of Dr. H. L. Chambers wherein the names of all legally licensed non-members were listed to the county secretaries for information concerning eligibility. A considerable amount of data has been received in reply, and Dr. Chambers is at present conducting a personal letter campaign towards interesting in Society membership all those shown as eligible and desired. This action, some other efforts he has planned, and the Kansas City, Missouri, A. M. A. meeting should make possible a further increase in membership next year.

## 2. Finances.

Considering the fact that there were twenty-eight honorary members included in the above total of 1428, the Society's budgeted income for 1935 was \$14,000. Against this amount may be compared the expense for the year of \$12,525.88 which is shown in detail on the statement just handed you. Inasmuch as 1935 represents the first average year of expenses incidental to the central office plan of organization, and as it also was a rather expensive year due to legislative activity, the provision of high school debate material, and several other unusual items, we feel that present income is ample for a comfortable budget.

## 3. WPA Projects.

Cooperation has been received from the Kansas WPA to the extent that almost every request of the Society has been granted.

Through assistance given by Dr. J. F. Hassig, Kansas was able to secure free choice of physician, and a method of standardization for averting difficulties of varying fees in the WPA project for treatment of traumatic injuries. The original plan issued by Washington officials for this purpose provided a system of designated physicians in each county and compensation upon a basis of minimum fees. We believe you will be interested in knowing that approximately 350 physicians participated in this work during the first month of the program, that the Kansas WPA has recently expressed its appreciation to the Society for the excellent cooperation it is receiving from the profession, and that the United States Employees Compensation Commission has officially complimented the Kansas plan as one of the most efficient in operation.

Further cooperation has been received from the Kansas WPA in connection with a national program for safety first instruction of project foremen. The plan submitted by Washington provided for state WPA representatives to select lay and scientific speakers of their own choosing, but through assistance of the above office all speakers on scientific subjects in this state are to be selected through the medium of the county medical societies.

During the past few weeks conferences have been held towards securing approximately \$45,000 for the county medical societies to provide physical examinations for WPA employees, but Washington approval has not as yet been obtained.

## 4. Medical Economics.

We are also glad to report that the Kansas Medical Economics Committee has received considerable national

prominence during the past few months. At the Secretaries Conference recently held at Chicago representatives of the Society were asked to explain the plan developed by that Committee for indigent medical care. Dr. F. L. Loveland has been asked to address the Northwest Regional Conference in Chicago during February on the same subject, and a large amount of favorable comment has recently appeared in various medical publications.

The debate project sponsored by the Committee has been particularly interesting. We have received many requests from this state and other states for the material offered, and also many letters complimenting the value of this information. Approximately 4,500 pamphlets including the release prepared by the Committee have been distributed. It is as yet too early to determine accurately what effect this activity has had on the debates, but an investigation of the recent conferences held by debate coaches at the state teachers meetings revealed that most coaches considered the question one sided in favor of the negative, and that difficulty was being experienced in obtaining interest of students on the affirmative side of the question. Also, scattered reports indicate the negative teams are winning a good percentage of their debates.

The plan made available by the Medical Economics Committee for indigent medical care is now operating in several counties, and seems to be proving satisfactory at least to date. A survey is being made through the county medical societies to determine the extent of present usage of the plan and the successes or failures that are resulting. No county commissioners are known to have declined its provisions, and eighty or ninety per cent affiliation of relief workers has been assured in most counties. If future months evidence that the plan is successful, there is little doubt but that it will receive a great amount of national interest.

The Medical Economics Committee at present is making preparations for study of semi-indigent and collection problems. It also intends to make several recommendations at this meeting for enlargement of the scope of its activities.

There is every indication that Kansas will have an efficient program under the Social Security Act, and we feel that Dr. Earle G. Brown is particularly deserving of commendation for the excellent amount of assistance he has given the Kansas profession in the preparation of this project.

## 5. Prepayment Concerns.

At least two attempts have been made during the last few months to form medical service corporations in this state. One of these occurred at Wichita where a concern organized for the purpose of selling pre-payment certificates to the public. Sedgwick County Medical Society and Mr. Mac Cahal were successful in stopping the activities of that company. The other instance occurred at Beloit where a layman desired to employ several physicians and a hospital in a similar enterprise. After several conferences and other assistance by the Mitchell County Medical Society, he was persuaded to abandon the scheme.

## 6. Miscellaneous.

Information has just been completed concerning the American Foundation Studies in Government which, as you know, recently forwarded letters to many Kansas physicians asking for their frank expressions of opinion



on socialization and present problems of the profession. This data, which is favorable, will be bulletinized to the county medical societies in the next few days.

Pursuant to authorization by the Executive Committee, arrangements were made for O'Neil and Hamilton of Topeka to continue representation of the Society in the Brinkley appeal scheduled for trial by the United States Circuit Court of Appeals at Oklahoma City on January 21. If Brinkley is unsuccessful in this action, he has only one remaining appeal—the United States Supreme Court.

Following a request from Reno County Medical Society authorization was secured from Dean H. R. Wahl wherein cadavers will be made available to interested county medical societies as dissection post graduate courses sponsored by the University of Kansas Medical School.

An offer has been made to Jackson County (Missouri) Medical Society and the Missouri State Medical Association to assist in any way possible toward making preparations for the Kansas City A. M. A. meeting.

We have attended forty-four county or district meetings during the past year, and have issued twenty-four bulletins, seven of which were forwarded to all members of the Society. We also now have in the office 1500 copies of Dr. R. G. Leland's new brochure entitled "An Introduction to Medical Economics" which contains an able summary of most problems incidental to socialized medicine and medical economics, and which will be forwarded to all members within the near future.

Activities approved but not yet completed are as follows: Lack of time has not made possible the installation of a central office accounting system and the institution of audits, both of which we think are quite important and should be attended to next year. Neither have we commenced the public information program approved by the Committee on Public Health and Education, and this is scheduled as a major function for 1936. The Council's instruction for incorporation of county medical societies has not as yet been complied with for reasons to be discussed during this meeting. Also, time has not permitted as full assistance as possible to the Editorial Board in soliciting advertising for the Journal. The Board has in mind several functions and also payment of Miss Strawn's salary from Journal funds as soon as this assistance can be given.

In conclusion, we would like to express our appreciation for the great amount of assistance Dr. J. F. Hassig has given us during the past year. Also, our desire to receive all possible suggestions and criticisms concerning errors we are making.

Clarence G. Munns, Executive Secretary.

A motion was made and carried that the report be accepted.

Dr. E. C. Duncan, Chairman of the Committee on Revision of Constitution and By-Laws, presented a new Society constitution and by-laws which had been prepared and approved by that Committee. The draft, upon motion by Dr. E. C. Duncan, seconded by Dr. H. N. Tihen, and carried, was approved by the Council for official notification to the component societies and presentation at the next House of Delegates meeting with the following instructions: That a second vice-president shall be added to the list of Society officers; that no president or vice-president shall be permitted to hold office for more than one consecutive term; that the Chairman of the Defense Board shall be selected by the Defense Board rather than by the House of Delegates;

that the power of referendum shall be retained; that a right of impeachment of officers and councilors shall be included; that chairmen of sectional groups at the annual session shall be selected by their respective sections rather than by the Committee on Scientific Work; that the election of officers shall be the last order of business at the last meeting of the House of Delegates at each annual session; that the term of office of the president shall be for one year commencing at the end of each annual session instead of on the first day of January; that applications for defense assistance shall be forwarded directly to the Defense Board instead of to the officers of the component societies; that the Chairman of the Defense Board shall be a member of the Executive Committee of the Council; that the title of Executive Secretary shall be continued instead of a substitution of the title of Business Manager; that a clause providing for payment of dues in arrears before dues of a current year are accepted shall be retained; that a committee on credentials shall be included; that provision shall be made for an annual budget to be approved by the House of Delegates.

Dr. C. C. Nesselrode, Chairman of the Committee on Control of Cancer, presented a recommendation of that Committee that the Society sponsor a series of six professional meetings and six public meetings on the subject of cancer at various points in the state during the week commencing March 30, 1936. Upon a motion by Dr. Marion Trueheart, seconded by Dr. Geo. M. Gray, and carried, an amount not to exceed \$750.00 was appropriated from Society funds to defray the expenses of three prominent out of state speakers for this purpose.

Dr. E. C. Duncan, Chairman of the Committee of Public Policy and Legislation, recommended that his Committee be instructed to proceed with development of an immediate campaign for passage of a Basic Science Law or Educational Requirement Law at the next term of the legislature. Upon motion by Dr. Melencamp seconded by Dr. A. C. Armitage and carried the recommendation was approved.

Dr. F. L. Loveland, Chairman of the Medical Economics Committee, offered a report concerning recent developments in connection with the Kansas plan for the Social Security Act. He expressed the belief that the Kansas profession should be grateful to Dr. Earle G. Brown, Secretary of the State Board of Health, for the excellent cooperation he has given in the interest of completing an efficient Social Security Act program in Kansas. Dr. Loveland also presented the following recommendations on behalf of the Medical Economics Committee: That the present Committee be enlarged to eleven members geographically selected from all parts of the state, and that each of those members should act as Chairmen of the sub-committees composed of one representative from each component society in the state; that a survey relating to preventive medicine and other economic factors be instituted by that Committee; and that a survey be commenced through high school debaters for information as to their opinions on the strength and weakness of arguments for socialized medicine. Upon motion by Dr. Henry Tihen, seconded by Dr. N. E. Melencamp and carried, the Committee was extended a vote of thanks for its past assistance, and was granted authority for institution of the above recommended projects.

Dr. J. F. Hassig, Chairman of the Board of Medical Examination and Registration discussed activities of the Board in connection with enforcement of provisions of

the Medical Practice Act.

The next order of business was the following report of the Editorial Board which was presented by Dr. W. M. Mills:

To the Members of the Council:

With all income and expenses considered to and including the December issue, the financial condition of the Journal is as follows:

Cash on hand.....	\$860.95
Good Accounts Receivable.....	53.25
Total surplus .....	\$914.20

which amount may be compared with the surplus of \$475.50 shown at the date of the last state meeting.

As evidenced by this statement, advertising and other incomes of the Journal are at the present time defraying all expenses of the publication and in addition, are affording a moderate profit.

Effective June 1, 1935, all Journal funds were transferred to a voucher system which we felt tended to standardize the handling of this account with other funds of the Society. However, for assistance in making deposits, arrangements were approved by Dr. Geo. M. Gray to continue banking connections at the Central National Bank in Topeka.

A meeting of the Associate Editors was held at the Salina meeting for discussion of matters of general policy and ways and means for improving the content and service of the Journal. Many valuable suggestions were obtained, and it is believed that meetings of this kind should be continued in the future.

Following a decision made at that meeting, announcement was made that the Journal would assume all expenses for engravings used in articles instead of the former procedure of requiring payment by authors. It was hoped that this action will encourage the preparation and submission of material.

During September an offer was made to students of the University of Kansas School of Medicine wherein they might secure Journal subscriptions for the approximate cost price of fifty cents per year. To date, fifteen students have responded.

Our advertising outlook for the new year is better than the same time last year, and we have hopes that by the end of the year, Miss Peggy Strawn's salary may be paid from Journal revenue which will place the publication on an entirely self-supporting basis.

Cooperation between the Associate Editors, the central office, and the Board has functioned smoothly, and we have been confronted with only one major problem—the acquisition of a sufficient volume of scientific articles. It is our desire to feature original Kansas material, and any aid the Council can give in enlisting the interest of members in the preparation of worthwhile articles will be greatly appreciated. Likewise, we shall welcome your suggestions and criticisms at all times.

W. M. Mills, M.D., Chairman.

Upon a motion by Dr. Geo. M. Gray, seconded by Dr. H. N. Tihen and carried, the Editorial Board was extended a vote of thanks for its past assistance, and its report was accepted.

The Executive Secretary presented correspondence from the Kansas Association for Social Legislation inviting the Society to lend its cooperation in the aims of that organization. Upon motion by Dr. H. N. Tihen, seconded by Dr. Alfred O'Donnell and carried, the fol-

lowing resolution was approved: "Since the project of the Kansas Association for Social Legislation may affect the practice of medicine, and since we represent the medical profession of Kansas, we feel we should be represented on their Board, and we shall be glad to arrange for such representation if desired."

Discussion followed concerning inter-professional relations between the medical profession and cultists. Upon motion by Dr. L. F. Barney, seconded by Dr. A. C. Armitage and carried, the following motion was adopted: "That the Council reiterates the Cannon of Ethics wherein it shall be unethical for any member of the Society to consult professionally with any cultist, that any unethical act is cause for dismissal from membership in a component society, and that the Executive Secretary be hereby instructed to officially transmit this information to the officers of all component societies."

Dr. H. N. Tihen moved that the President be authorized to appoint or designate a committee to cooperate with the Kansas Nurses Association to assist in the alleviation of problems confronting the members of that organization. Seconded by Dr. L. F. Barney and carried.

The following resolution forwarded by the Southeast Kansas Medical Society was then presented:

"As there is dire need for more beds in our Tuberculosis Sanatorium to care for the early cases and thereby making it possible for these sufferers to be cured or greatly benefited so they can return to their families and to a gainful occupation: That the Kansas Medical Society be asked to aid the Southeast Kansas Medical Society in presenting to the next session of the State Legislature this great need, and insist that they appropriate sufficient funds to establish these beds and that they be established in the more densely populated parts of the State near the homes of these sick people thereby saving the counties in the transportation cost: We would suggest that a number of these beds be established in the Third District, which has more cases of Tuberculosis per 1,000 population than any of the other districts, this greater number being due to the occupational pursuits of the people, especially in the lead and zinc mining districts where silicosis is very prevalent. The people who become infected in turn infect their families, whose living conditions are, in the majority of cases, very unfavorable."

Upon motion by Dr. Marion Trueheart, seconded by Dr. N. E. Melencamp, the following resolution was approved: "That the Council fully appreciates the need for additional tuberculosis facilities in Southeast Kansas, and that it will gladly lend its support in that direction, but that it recommends as a preliminary measure the state hospital at Norton shall be increased to its full economic capacity, that thereafter a state hospital for the tubercular persons be established at an advantageous point in Southeast Kansas, and that the Southeast Kansas Medical Society and the State Board of Administration be notified of this recommendation."

Upon a motion by Dr. J. F. Hassig, seconded by Dr. L. F. Barney and carried, it was decided that the annual meetings of the House of Delegates and Council should commence at 2:00 P.M. on May 11 in Kansas City, Kansas, at a suitable place to be selected by the Wyandotte County Medical Society.

Suggestion was made that the next annual meeting of the House of Delegates will not permit adequate time for notification to the American Medical Association as to the official 1936 and 1937 delegate of the Society. The Council, under emergency authority, proceeded to



Washburn  
Goldthwaite  
Scoliosis

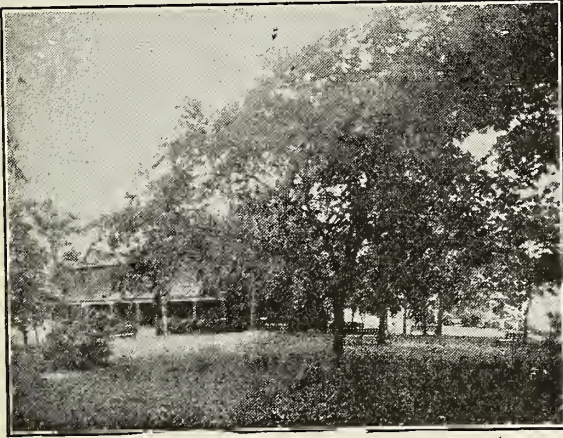
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unanimously elect Dr. H. L. Snyder as an official delegate for 1936. Upon motion by Dr. H. N. Tihen, seconded by Dr. A. C. Armitage and carried, it was ordered that the expenses of Dr. J. F. Hassig, delegate, and Dr. H. L. Snyder, delegate, be paid by the Society for their attendance at the next American Medical Association meeting.

The Executive Secretary explained certain present legal difficulties in connection with incorporating county medical societies, and upon motion by Dr. N. E. Melencamp, seconded by Dr. L. F. Barney and carried, decision was made that this action should be tabled until further authority is received from the Council.

Upon motion by Dr. Alfred O'Donnell, seconded and carried, authority was granted Dr. H. L. Snyder, Dr. F. L. Loveland and Clarence G. Munns to attend the Northwest Regional Conference in Chicago on February 16 at the expense of the Society.

Upon motion by Dr. A. C. Armitage, seconded by Dr. N. E. Melencamp and carried, an official communication from the District of Columbia Medical Society was tabled until the next meeting of the Council.

Upon motion by Dr. H. N. Tihen, seconded by Dr. A. C. Armitage and carried, a letter from Philadelphia County Medical Society requesting the assistance of the Society toward securing the next American Medical Association meeting at Philadelphia was referred for handling as desired by the official delegates of the Society.

A communication was presented from the Kansas Hospital Association which requested the establishment of a joint committee with that organization for assistance in a solution of hospital problems. Upon motion by Dr. A. C. Armitage, seconded by Dr. Alfred O'Donnell and carried, approval was given for the Hospital Survey Committee to cooperate in any way desired with the Kansas Hospital Association.

Dr. H. N. Tihen moved that a rising vote of thanks be extended Dr. J. F. Hassig as retiring President for the excellent services he extended the Society during his term as president. Seconded and carried.

Adjournment followed.

## YOUR INCOME TAX

### March 15

## CANCER COMMITTEE MEETING

Members of the Committee on Control of Cancer held a meeting at the Allis Hotel in Wichita, on January 15 for the purpose of completing plans for its Cancer Control Program. Members attending were: Dr. H. L. Snyder, President, Winfield; Dr. C. C. Nesselrode, Chairman, Kansas City; Dr. N. E. Melencamp, Dodge City; Dr. Milton B. Miller, Topeka; Dr. J. G. Missildine, Wichita; Dr. Marion Trueheart, Sterling; Dr. Howard Snyder, Winfield.

## MEMBERS

Dr. Earle G. Brown, Topeka, has been reappointed as a member of the American Public Health Association Committee, on Appraisal of City Health Work.

Dr. Francis Carmichael II, formerly of Osawatomie and now affiliated with the Neuro-Surgery department of the Mayo Clinic, has recently been appointed as first assistant to Dr. R. W. Cragg.

Dr. Clifton Hall, Topeka, conducted a tuberculosis clinic in Emporia on January 16.

Dr. C. H. Kinnamon, Topeka, has recently completed arrangements for a State Board of Health immunization program in Morris County. The county will pay local physicians a small fee for each administration.

Dr. J. F. Hassig, Kansas City, and Dr. C. H. Ewing, President and Secretary, respectively, of the Kansas Board of Medical Examination and Registration, will attend the Annual Congress on Medical Education, Medical Licensure and Hospitals in Chicago on February 17 and 18.

Dr. L. R. McGill, Hoisington, recently returned from Chicago where he took a two-months postgraduate course at the Cook County Hospital.

Dr. Noble P. Sherwood, Lawrence, is the author of a text on "Immunology" published by C. V. Mosby Company during January.

Dr. A. S. Hawkey, formerly of Newton, has moved to Peabody where he will practice with Dr. E. H. Johnson.

Recent county health officer appointments for the coming year include: Dr. J. H. Dittmore, Belleville; Dr. E. R. Core, Bird City; Dr. I. B. Parker, Hill City; Dr. E. Schumann, Blue Rapids; Dr. R. W. Moore, Eureka; and Dr. D. D. Allen, Mankato.

Dr. W. G. Emery, Hiawatha, was recently appointed resident physician for the state penitentiary at Lansing.

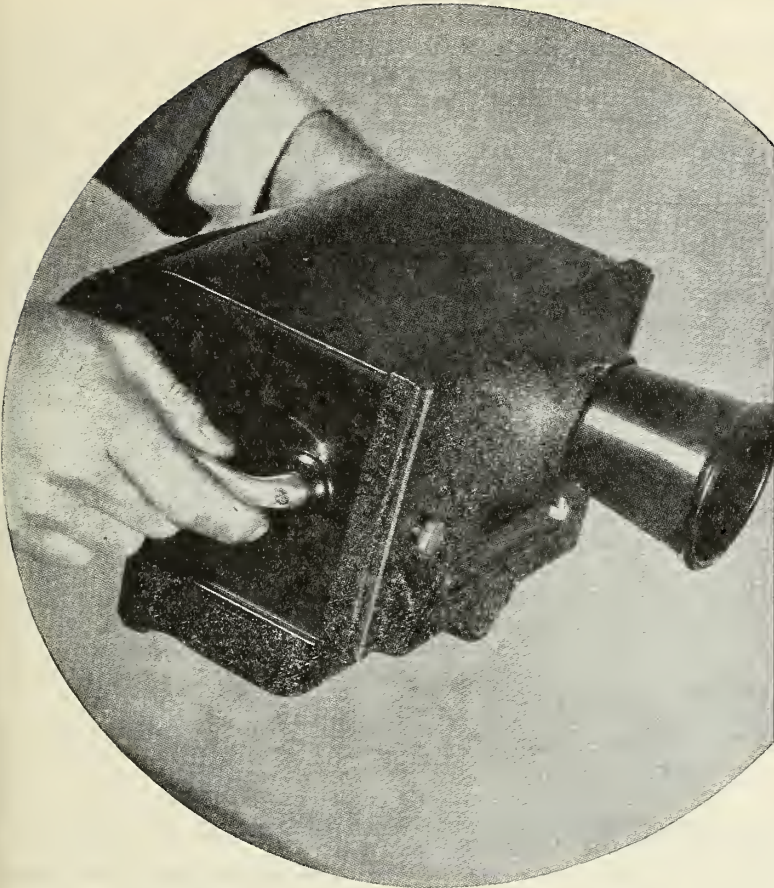
Dr. W. L. Pratt, Leavenworth, has been elected president of the Leavenworth County Medical Society, to fill the vacancy occasioned by the death of Dr. Joseph Skaggs.

Dr. Karl A. Menninger, Dr. Robert P. Knight, and Dr. Nathan W. Ackerman, of the Menninger Clinic, Topeka, recently conducted a lecture course before the Shawnee County Mental Hygiene Society which consisted of the following subjects: Definition and History of the Mental Hygiene Movement; Psychodynamics of Normal Child Development; Problem Children; Juvenile Delinquency; Mental Hygiene of Adolescence; Marital Relationships; Early Manifestations of Common Mental Illnesses.

## DEATH NOTICES

Dr. Winston L. Ramey, 54 years of age, died at the Veterans Hospital in Wichita on January 6. He had been a physician in Protection for some twenty-five years going there following his internship at the Louisville City Hospital, in Kentucky. He was born in Carter,





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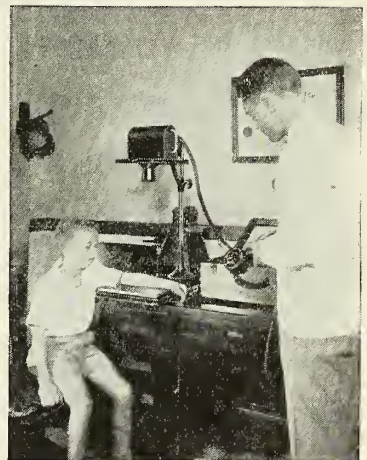
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Kentucky, in 1881 and after teaching school for several years, attended the Louisville School of Medicine, and received his degree in 1906. He spent some time at the Illinois Medical School in Chicago, and Washington University, at St. Louis, taking post-graduate work, and studied eye, ear, nose and throat in Vienna, Austria, during 1925-26. He was a member of the Ford County Medical Society.

Dr. Samuel H. Sidlinger, 90 years of age, died in Hutchinson on December 28. He was an honorary member of the Reno County Medical Society. He attended school at the University of Michigan, School of Medical, graduating in 1874 and received his license in 1901.

Dr. Joseph E. Skaggs, 50 years of age, died at the Cushing Memorial Hospital in Leavenworth on January 20. He was a graduate of the University of Louisville, School of Medicine, in Kentucky, in 1915 and began practicing in Leavenworth in 1917. He was a member of the Leavenworth County Medical Society, having just recently been elected to the presidency of the society for 1936.

### COUNTY SOCIETIES

The Allen County Medical Society held their annual banquet at St. Johns Hospital on January 23 in Iola. Dr. L. D. Johnson, Chanute, and Dr. E. C. Duncan, Fredonia, spoke on subjects relating to medical organization.

Dr. J. R. Nevitt, was elected president of the Anderson County Medical Society at their monthly meeting in January; Dr. A. J. Turner, vice-president; Dr. J. A. Milligan, Garnett, secretary-treasurer; Dr. J. R. Henning, Westphalia, delegate; and Drs. C. B. Harris, Garnett, T. A. Hood, Garnett, and W. J. Hatfield, Colony, censors.

Members of the Atchison County Medical Society held election of officers at their regular meeting in Atchison in January. Dr. F. I. Stuart, Atchison, was elected president; Dr. A. Whitaker, Atchison, vice-president; and Dr. Charles Finney, Atchison, secretary-treasurer.

At a meeting of the Central Kansas Medical Society held in Ellsworth in January, Dr. B. H. Mayer, Ellsworth, was elected president; Dr. G. F. Zerzan, Holyrood, vice-president; and Dr. L. V. Turgeon, Wilson, secretary-treasurer.

The Clay County Medical Society held a meeting on January 8 in Clay Center with Dr. Earle G. Brown and Mr. Ross Laybourn, both of Topeka, as guest speakers. Dr. Brown spoke on "Control of Communicable Disease," and Mr. Laybourn talked on "The Use of the Laboratory in the Control of Communicable Disease."

Dr. Milton J. Dunbar, Winfield, was elected president of the Cowley County Medical Society at their annual banquet held in Arkansas City in December; Dr. N. B. Fall, Winfield, secretary, and Dr. P. F. Theis, Arkansas City, vice-president. Professor H. J. Skornia, of the Arkansas City Junior College department of modern language, gave a talk on "Reminiscences of My European Trip" and Dr. Leroy Long, dean of the school of medicine of the Oklahoma university, spoke on "Louis Pasteur."

The Elk County Medical Society held election of officers for the coming year at their meeting in December in Elk Falls as follows: Dr. R. C. Harner, Howard,

president; Dr. F. K. Day, Longton, vice-president; Dr. F. L. DePew, Howard, secretary-treasurer; Dr. R. C. Harner, delegate to the state meeting.

The following officers were elected to serve during 1936 at a meeting of the Ford County Medical Society in Dodge City on January 10: Dr. R. G. Klein, Dodge City, president; Dr. G. O. Spiers, Spearville, vice-president; Dr. C. L. Hooper, Dodge City, secretary-treasurer.

Members of the Geary County Medical Society held their annual election of officers in January for the ensuing year. Dr. W. A. Smiley, Junction City, was elected president; Dr. A. E. O'Donnell, Junction City, vice-president; Dr. L. S. Steadman, Junction City, secretary-treasurer; and Drs. W. A. Carr, L. R. King, and W. S. Yates, all of Junction City, censors.

Harvey County Medical Society held a dinner-meeting on January 6 at Newton. Following the dinner Dr. James A. Wheeler, Newton, presented a paper on "Milk"; Dr. A. S. Hawkey, Newton, spoke on "Pyelitis of Pregnancy"; and Dr. G. A. Westfall, Halstead, talked on "Ulcerated Colitis."

Officers elected to serve during 1936 in the Labette County Medical Society are as follows: Dr. R. W. Urie, Parsons, president; Dr. Charles Miller, Parsons, vice-president; and Dr. A. G. Baird, Parsons, secretary-treasurer.

Dr. V. C. Price, McPherson, was elected president of the McPherson County Medical Society at their meeting on January 8. Other officers elected to serve for the coming year are as follows: Dr. Robert Sohlberg, Jr., McPherson, vice-president; and Dr. A. M. Lohrentz, McPherson, secretary-treasurer.

At a recent meeting of the Marion County Medical Society, Dr. I. B. Nanninga, Goessell, was elected president; Dr. E. H. Johnson, Peabody, secretary-treasurer, and Dr. R. Melton, Marion, was elected vice-president, to serve during the coming year.

The following officers were elected to serve during 1936 for the Marshall County Medical Society: Dr. W. R. Breeding, Marysville, president; Dr. R. L. McAllister, Marysville, vice-president; and Dr. Henry Haerle, Marysville, secretary-treasurer.

Members of the Miami County Medical Society elected officers at their meeting in January. Dr. A. W. Fairchild, Osawatimie, was elected president; Dr. C. A. Fisher, Paola, vice-president; Dr. Joseph Fowler, Osawatimie, secretary-treasurer; Dr. P. A. Pettitt, Paola, state meeting delegates; and Drs. P. F. Gatley, Louisburg, B. L. Phillips, Paola, and O. C. Lowe, Paola, censors.

The Republic County Medical Society held a meeting on January 16 for their annual election of officers for 1936. The following were elected: Dr. C. V. Haggman, Scandia, president; Dr. E. R. Beiderwell, Belleville, vice-president; and Dr. M. D. McComas, Courtland, secretary-treasurer.

The election of officers of the Rush-Ness County Medical Society was erroneously reported in the January issue of the Journal. The notice stated that Dr. D. B. Parker, Ransom, was elected president wherein it should have stated that Dr. T. F. Brennan, Ness City, president and Dr. D. B. Parker, Ransom, president-elect.

At a meeting of the Saline County Medical Society held in Salina during January, the following officers were elected for 1936: Dr. Charles Jenney, president; Dr. L. S. Nelson, vice-president; Dr. Maurice Snyder, secretary; Dr. O. R. Brittain, treasurer; Drs. Ned Cheney, and



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Harold Neptune, delegates to the state meeting; and Drs. D. A. Anderson, C. D. Armstrong, and Perry Loyd, censors. All officers are of Salina.

Dr. Henry H. Turner, Oklahoma City, was the guest speaker at a meeting of the Sedgwick County Medical Society on January 7 in Wichita. Dr. George E. Milbank delivered his presidential address at this meeting.

A dinner-meeting of the Sumner County Medical Society was held at Wellington in December and the following officers were elected at the business session following the dinner: Dr. W. M. Barnes, Caldwell, president; Dr. J. A. Phillipsen, Wellington, vice-president; Dr. E. Trekell, Wellington, secretary; Dr. R. W. VanDeventer, Wellington, to the board of censors. Dr. Walter E. Bartlett, Belle Plaine, gave the principal talk of the evening.

The regular meeting of the Washington County Medical Society was held on January 10 in Washington. Dr. Z. H. Snyder, read a paper on "Glaucoma," and Dr. Fred E. Rogers, talked on "A Resume of the Literature Regarding Arsenical Therapy and Optical Atrophy."

The Wilson County Medical Society held a meeting in Fredonia on January 13 with Mr. Ben W. Sinderson, county poor commissioner, as the guest speaker on the program. He spoke on the problems of the relief for medical care. Dr. Lynn Beal, Fredonia, was elected to membership in the society.

Members of the Wyandotte County Medical Society held a meeting in Kansas City on January 21, at the Chamber of Commerce. The program was as follows: Dr. H. R. Wahl, spoke on "Pathological Conference"; Dr. M. A. Walker, Kansas City, spoke on "Surgery and Diabetes"; Dr. Harold Gainey, gave a paper on "Pelvic Inflammation and Sedimentation."

The Golden Belt Medical Society held their regular quarterly meeting on January 9 in Salina. The meeting began at 3:00 in the afternoon and closed after the last speaker following the dinner. The following physicians appeared on the program: Dr. Maurice Snyder, Salina; Dr. Lucien R. Pyle, Topeka; Dr. C. C. Dennie, Kansas City, Missouri; Dr. Harry L. Smith, Rochester, Minnesota; Dr. B. A. Nelson, Manhattan; and Dr. Raymond Gelvin, Concordia.

#### NEW BOOKS RECEIVED

**THE 1935 YEAR BOOK OF DERMATOLOGY AND SYPHILOLOGY.**—By Dr. Fred Wise, professor of clinical dermatology and syphilology and Dr. Marion B. Sulzberger, assistant professor of clinical dermatology and syphilology at the New York Post-graduate Medical School and Hospital. Published by the Yearbook Publishers at \$3.00 per copy.

**THE 1935 YEAR BOOK OF UROLOGY.**—Edited by Dr. John H. Cunningham, associate in genito-urinary surgery at the Harvard Post-graduate School of Medicine. Published by the Yearbook Publishers, Chicago, at \$2.25 per copy.

**THE 1935 YEAR BOOK OF GENERAL SURGERY.**—Edited by Dr. Evarts A. Graham, professor of surgery, Washington University School of Medicine. Published by the Yearbook Publishers, Chicago, at \$3.00 per copy.

#### BOOK REVIEWS

**MEDICAL CLINICS OF NORTH AMERICA**, November 1934, New York Number. 301 pages. W. B. Saunders Company, Philadelphia. \$12.00, Paper; \$16.00 Cloth. This publication is to appear bi-monthly and is to be of great interest to the general practitioner as well as to the specialist. Emphasis is placed on diagnosis and treatment and all of the various branches of medicine will be well covered. The real purpose of this publication is to give to the reader condensed and easily readable clinical aspects of everyday problems.

This November 1934 issue contains an excellent symposium on the adenopathies giving the rare as well as the common adenopathies with etiology, pathology, diagnosis, and treatment of each. There are three writings on heart diseases and one on the treatment of pneumonia in infants and children. There are ten other contributions by authors who are associated with large medical institutions. All of these articles are of value to anyone engaged in the practice of medicine.

G. F. Helwig, M.D.

**EMOTIONS AND BODILY CHANGES: A SURVEY OF LITERATURE ON PSYCHOSOMATIC INTERRELATIONS**, by Dunbar H. Flanders, M.D. The Columbia Press, New York, 593 pages, \$5.00.

I should like to offer some advice to the readers of this Journal. While I am prepared for the probability that none of them will take it, if any do I should appreciate hearing of it and learning whether or not the advice was good.

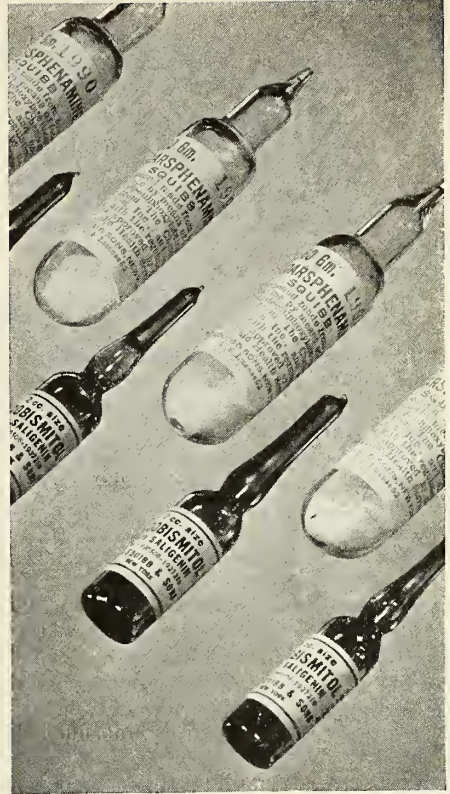
This is the advice: If I were asked by a medical student just graduating, or by a physician who had been in practice for five years, or by a physician who had been in practice for twenty years what book I would personally regard as being likely to prove of the greatest theoretical and practical value to him of anything published—to my knowledge—in the past ten years, I should recommend this volume. I say this in spite of the fact that this is not a text book, not a treatise, not a compendium, not a manual, and not a monograph. It is an organized collection of abstracts of the medical literature dealing with one aspect of a problem which ninety-nine out of a hundred physicians have thought of, and which one physician out of a hundred has seriously and scientifically investigated. I refer to the organic physical expressions of emotion, or put in another way, the effect of wishes and emotions upon the body structure and body functions.

No physician can read these innumerable, accurately documented, scientifically presented abstracts and retain the same blindness or bewilderment or incredulity regarding the influence of the emotional life upon the physical life he had before reading them. Case after case is cited in sufficient detail to prove point after point. General principles are discussed, then each system of the body—the endocrine system, the cardiovascular system, the respiratory system, the genito-urinary system, etc. Then follows a treatment section, and a very long list of references, over two thousand.

My own feeling is that a new era in medicine is not only "about to be ushered in" but has already been ushered in and that every physician must take cognizance of facts which the laity have long since realized but which we, as physicians, have been apt to underestimate



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because of our reluctance to give credit to something which appeared to be unscientific. To the reader of this book it will no longer seem unscientific.

Karl A. Menninger, M.D.

A TEXTBOOK OF CLINICAL NEUROLOGY WITH AN INTRODUCTION TO THE HISTORY OF NEUROLOGY by Isreal S. Wechsler, M.D. Third Edition Reset. W. B. Saunders Company, 826 pages, \$7.00.

The newest edition of Wechsler's now standard textbook of clinical neurology presents a thoroughly revised text, with an increase in length of more than fifty pages, principally utilized for an excellent brief resume of neurologic history. There are however changes in the original text, based on scientific advances in neurologic theory and practice. There are also a greater number of illustrative photographs of post-mortem specimens, mostly from the neuropathologic laboratory of Montefiore Hospital. For these reasons, the present work represents an even more useful adjunct to clinical study and practice than earlier editions. At the same time, none of its peculiar virtues have been lost or diminished in revision. It is a singularly readable, even refreshing, exposition of an important branch of Medicine which is intellectually most difficult, and to the medical student, unfortunately, often seems devoid of interest. Wechsler's textbook in its compact inclusiveness and its careful presentation of the fundamentals of organic neurologic examination diagnosis addresses itself equally to the student and the alert practitioner of Medicine. The absence of introductory chapters on neuroanatomy, physiology, and pathology does not mean that these all-important sciences are neglected, but rather that they are most skillfully fused with the discussions of the clinical signs and symptoms.

There is of course, as in earlier editions, a chapter on The Neuroses, a short presentation of a subject which the author discusses more fully in a separate work. The clarity and open-mindedness of the author's attitude toward this highly controversial field deserves special appreciation. While reaffirming fundamental organic principles and convictions, the author accepts and utilizes pragmatically the extreme practical importance of the psychodynamic approach to neurotic disease.

The new Introduction to the History of Neurology is brief and literally loaded with discriminating factual material. It is distinguished by the always interesting personal note, especially in epistemologic attitude, that enlivens the whole text. It completes fittingly a textbook which merits only praise and a high place in any medical library.

Leo Stone, M.D.

PRACTICAL CLINICAL PSYCHIATRY FOR STUDENTS AND PRACTITIONERS. By Edward A. Strecker, M.D., and Franklin G. Ebaugh, M.D. Fourth Edition, Blakiston's Son and Company, Philadelphia, 705 pages, \$5.00.

This book, the fourth edition, by two prominent and popular psychiatrists will receive widespread and favorable approval by psychiatrists in general. They have succeeded in presenting very readable and at the same time accurate pictures of the various clinical entities written from the point of view of progressive and modern psychiatry. In general they have followed their previous

plan of using case histories, which makes the material much more readable, and the illustrations add much to the understanding.

There are certain criticisms that may be directed toward the book, which will vary with the attitude and training of the individuals who read it. To the general practitioner these are perhaps of minimal importance, but the psychiatrist who does not share the enthusiasm for the Meyerian school of psychobiology wears of the frequent reference to this overused term. "Psychobiology," or its adjective or adverb, is used on an average of about twice a page throughout the first chapter, and very frequently reiterated throughout the whole book, though in one instance the authors slip in using the phrase, "the more or less common sense methods of psychobiologic approach." One feels that the other schools of psychiatry are not very adequately presented and certainly the more or less universally accepted Freudian mental mechanisms are not accurately defined. The treatment sections seem weak and are devoted chiefly to generalities. This is particularly true of the treatment outlined for the manic-depressive psychoses on page 352 and for schizophrenia on page 418.

The book is well bound, has excellent typography, and is supplemented by an extensive bibliography at the end of each chapter.

William C. Menninger, M.D.

#### PUBLIC HEALTH NOTES

Furnished through the courtesy of the Kansas State Board of Health.

Reports of the Kansas State Board of Health show the following recent health statistics:

Organic heart disease was the most prominent cause of death in the United States in 1935 and cancer was the second cause.

Forty-three Kansas counties, including Shawnee county, reported no cases of diphtheria during 1935. Thirty-nine diphtheria deaths occurred in 1935 as compared with thirty-eight in 1934. The 1935 reported diphtheria cases established a new low record for the state.

One hundred and twenty-four deaths of infants under one year of age were reported during December. Ten of these occurred in Wichita, nine in Kansas City, and seven in Topeka.

Only forty-one influenza deaths and 144 pneumonia deaths were reported in 1935.

—JKMS—

The latest annual report of the Surgeon General of the United States, shows that tuberculosis was the leading cause for discharge from army service in 1934 and that dementia praecox was second. Also, that this is the first year in more than ten years, that dementia praecox was not the foremost cause for army discharge.

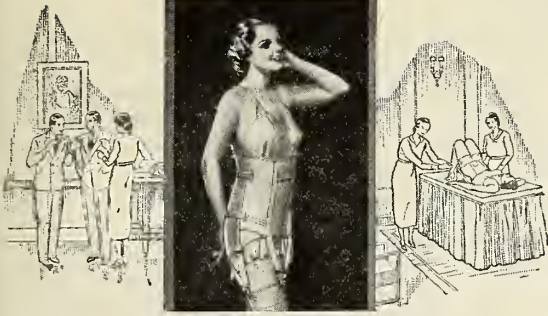
—JKMS—

The United States Public Health Service in a summary based on a report of twenty-six states, estimates that there were 1,037,000 new cases of gonorrhea and 518,000 new cases of syphilis in the United States in 1934.

—JKMS—

The birth rate for the United States for 1934 was 17.1 as compared with 16.6 in 1933, but these figures are below the rate of 18.9 for 1930.—Statistical Bulletin, Metropolitan Life Insurance Co., November, 1935.





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### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending January 18	Month ending December 21
Chickenpox .....	892	604
Scarlet Fever .....	620	572
Pneumonia .....	316	193
Mumps .....	194	176
Whooping cough .....	91	94
Smallpox .....	71	29
Syphilis .....	54	62
Diphtheria .....	49	70
Influenza .....	47	29
Measles .....	47	25
Tuberculosis .....	43	78
Gonorrhea .....	34	63
Undulant Fever .....	17	9
Typhoid Fever .....	13	14
Erysipelas .....	13	11
German Measles .....	12	11
Vincent's Angina .....	10	6
Meningitis .....	9	11
Pink-eye .....	6	1
Cancer .....	5	10
Encephalitis .....	1	5
Poliomyelitis .....	1	3

### ANNOUNCEMENTS

The Twentieth Annual Session of the American College of Physicians will be held in Detroit with headquarters at the Book-Cadillac Hotel, March 2-6, 1936.

Dr. James Alex. Miller, of New York City, is President of the College, and has arranged a program of general scientific sessions of great interest to those engaged in the practice of Internal Medicine and associated specialists. Dr. Charles G. Jennings, of Detroit, is the General Chairman of the Session, and is in charge of the program of clinics and demonstrations in the hospitals, medical schools and other Detroit institutions. Dr. James D. Bruce, Vice President in Charge of University Relations, University of Michigan, is Vice Chairman of the Committee on Arrangements, and has in charge the preparation of an all-day program to be conducted at the University of Michigan on Wednesday, March 4. Dr. Walter B. Cannon, Professor of Physiology at Harvard University Medical School, will deliver the annual Convocation Oration on "The Role of Emotion in Disease." Dr. Miller's presidential address will be on "The Changing Order in Medicine." About fifty eminent authorities will present papers at the general scientific sessions, while clinic and demonstrations will be conducted at the Harper, Receiving, Ford, Grace, Herman Kiefer and Children's Hospitals, of Detroit.

—JKMS—

An American College of Surgeons sectional meeting will be held on Wednesday, Thursday and Friday, March 11, 12 and 13 in Omaha, Nebraska. Headquarters will be at Hotel Paxton. Participating states are: Nebraska,

Iowa, Wyoming, North Dakota, South Dakota, Minnesota, Kansas and Colorado.

The following program will be presented:

Wednesday, March 11, 1936

8:00— 6:00 Technical and Educational Exhibition  
8:00— 9:00 Registration  
9:00—12:00 Operative Clinics  
9:30—12:00 Hospital Conference  
12:00— 2:00 Medical Motion Pictures  
2:30— 5:00 Hospital Conference  
5:00— 5:30 Annual Meeting, Fellows of the College  
7:00— 8:00 Medical Motion Pictures  
8:00—10:30 Scientific Session, General Surgery  
8:00—10:30 Scientific Session, Eye, Ear, Nose and Throat Surgery  
8:00—10:00 Hospital Round Table Conference

Thursday, March 12, 1936

8:00— 6:00 Technical and Educational Exhibition  
9:00—12:00 Operative Clinics  
9:00—12:00 Hospital Conference  
12:00— 2:00 Medical Motion Pictures  
2:00— 5:00 Hospital Conference  
2:30— 5:30 Scientific Session, General Surgery  
2:30— 5:30 Scientific Session, Eye, Ear, Nose and Throat Surgery  
8:00—10:00 Community Health Meeting

Friday, March 13, 1936

8:00— 4:00 Technical and Educational Exhibition  
9:00—12:00 Cancer Clinic  
9:00—12:00 Fracture Clinic  
9:00—12:00 Operative Clinics, Eye, Ear, Nose and Throat Surgery  
12:00— 2:00 Medical Motion Pictures  
2:30— 5:30 Scientific Session, General Surgery  
2:30— 5:30 Scientific Session, Eye, Ear, Nose and Throat Surgery.

Some of the distinguished visitors who will be present on this occasion are: Dr. George Crile, Cleveland, Chairman, Board of Regents, American College of Surgeons; Dr. A. W. Adson, Rochester, Neurosurgeon, Mayo Clinic; Dr. Frank E. Adair, New York, Attending Surgeon, Memorial Hospital; Dr. Charles L. Scudder, Boston, Consulting Surgeon, Massachusetts General Hospital; Dr. Robert H. Kennedy, New York, Surgical Director, Beekman Street Hospital; Dr. Frederic A. Besley, Waukegan, Professor of Surgery, Northwestern University Medical School; C. C. Little, Sc. D., New York, Managing Director, American Society for the Control of Cancer; Dr. M. T. MacEachron and Dr. Bowman C. Crowell, Chicago, Associate Director, American College of Surgeons; and Robert Jolly, Houston, Superintendent, Memorial Hospital and Past President, American Hospital Association.

An invitation to attend is extended not only to the Fellows and hospitals representatives of the various states included, but to the entire medical profession at large.

—JKMS—

The Southeastern Surgical Congress, will be held in New Orleans, March 9-11. Dr. Benjamin T. Beasley, Secretary, 478 Peachtree Street N. E., Atlanta, Georgia, will furnish information upon request.

—JKMS—

The American College of Radiology, will hold a session in Chicago, on February 16. For further details write, Dr. Benjamin H. Orndoff, Executive Secretary, 2561 North Clark Street, Chicago.



# CANNED FOODS AND THE PUBLIC HEALTH

## I. The "Ptomaines"

• Many requests received for further information on canned foods have inquired as to some of the public health aspects of this class of foods. We appreciate the frank interest of our readers in this subject about which so much misinformation exists. We are glad, therefore, to devote this discussion, as well as subsequent ones, to the most popular of the lay misconceptions concerning the wholesomeness of commercially canned foods.

Some laymen hold the belief that canned foods, in some mysterious manner, develop "deadly ptomaines" within the can and hence the consumer of such foods stands in danger of "ptomaine poisoning". In the light of modern knowledge, this belief is ludicrous; it probably had its origin in the old "ptomaine theory" of food poisoning, now so thoroughly discredited by modern medical authorities (1).

Between the years 1870 and 1880, a large number of substances were obtained from protein material which had undergone bacterial putrefaction. These substances were aptly called "ptomaines", from the Greek "ptoma" or "dead body". Toxicologists of the day ascribed marked toxic properties to the new found ptomaines, chiefly by injection studies rather than by feeding tests.

The science of bacteriology was then in

its infancy—the true causes of food infection or intoxications were not known. Consequently, the discovery of ptomaines, with their alleged toxic properties, permitted the convenient diagnosis of "ptomaine poisoning" for all illnesses following the ingestion of foods. Today, we know that such illnesses usually result from the ingestion of food which had been infected by certain bacterial groups, and not from protein degeneration products such as ptomaines (2, 3).

One authority has stated that "ptomaine poisoning is a good term to forget" (4).

To this we might add that it would also be well to discard the old, unfounded belief that foods in the tin can develop substances hazardous to health.

Canned foods are merely selected foods which, after proper preparation, are sealed in hermetic tin containers and given a heat process calculated to destroy pathogenic and spoilage organisms which might be present on the raw foodstuff. The hermetic seal prevents future infection of the food by such organisms and insures its preservation and wholesomeness.

Such are the simple facts. The cooperation of the medical profession is earnestly solicited in combating the ludicrous, yet widespread, lay prejudice against commercially canned foods.

## AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) Journal American Medical Ass'n, 90, 459 and 1573 (1928).

(2) Food-Borne Infections and Intoxications, F. W. Tanner, Twin City Pub. Co., Champaign, Ill., 1933.

(3) Food Poisoning and Food-Borne Infections, E. O. Jordan, University of Chicago Press, 2nd Ed., 1930.

(4) Preventive Medicine and Hygiene, M. J. Rosenau, Appleton-Century, New York, 6th Ed. 1927, p. 608.

*This is the ninth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.*



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Committee on Foods of the American Medical Association.

## EXCHANGES

"Socialized Medicine."—During the past two months the Committee has concentrated on the preparation and distribution of material on the most popular subject of the day, "The Socialization of Medicine."

Two hundred copies each of the following articles were mimeographed to send out to debaters, and doctors who were securing material for their local debating teams and for their own personal use:

"The Middleman," "Insurance," "Where Do We Go from Here and Why," "Government's Place in Health," "Our Medical Destination," "The Child and the Family Doctor," "Special Summary of the Social Security Act," "Symposium on Socialized Medicine by the Kansas State Medical Society," "State Medicine by the Minnesota State Medical Society."—Illinois Medical Journal.

—JKMS—

G-Men and Social Hygiene.—A new aspect of scientific publishing appeared when the Williams and Wilkins Company, well known publishers of Baltimore, were asked last summer to cooperate with the U. S. Department of Justice in apprehending one Alvin Karpis, current Public Enemy No. 1, wanted for the kidnapping of Edward G. Bremer of St. Paul and on numerous other charges. Karpis was said to be infected with chronic gonorrhea which the astute G-men had deduced would drive him to seek frequent treatments, and it was suggested that the publishing house, through the columns of the Journal of Urology, ask urologists to be on the lookout for him. Full-face and side photographs of Karpis were accordingly printed in the August number of the magazine, p. 20, adv. section, with a full description of the fugitive and the request to communicate any pertinent information to the Federal Bureau of Investigation. A folder supplied by the Government and giving further details concerning the case was also mailed to each subscriber.

It will be interesting to see whether such an effort will assist in bringing Karpis to book. According to newspaper information he is still at large as this is written.—Social Hygiene News, January 1936.

—JKMS—

What Others Say.—It will be a sorry victory for the public if it is ever misled into action that will compel physicians and medical societies to turn aside from their tested traditions and devote their main attention to economic problems. There has been far greater progress in preventive medicine in this country than in any nation in which medical care has been dominated by political and economic interests.—R. G. Leland, M.D., American Medical Association.

—JKMS—

Influenza.—Science reports that there is a possibility of an influenza epidemic in the United States this winter which is founded on the information received by the United States Public Health service, that there are about five thousand cases of this disease in Honolulu. This epidemic started early in November.

The last big influenza epidemic, that of 1932, is reported to have started in Hiawaii. It invaded the United States with a record of ninety thousand cases.—New England Journal of Medicine.

—JKMS—

Employ your time improving yourself by other men's documents; so shall you come easily by what others have labored hard for.—Socrates.

Hay-fever cures are consistent, anyway. It isn't a fever and isn't caused by hay and they don't cure it.—San Francisco Chronicle.

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# THE JOURNAL

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### SILICOSIS\*

C. H. WARFIELD, M.D.

Chicago, Illinois

Silicosis, commonly called pneumoconiosis, has been quite well known to roentgenologists and pathologists for some time. However, it has been revived in the last few years by a certain group of doctors and lawyers who have attempted to exploit the disease for profit to themselves. Many employees who have been idle for some time easily succumb to the talk of these people and will allow the latter to negotiate suit against their former employers for various sums of money. This procedure costs the employee no money and he is willing to run the chance of getting something or nothing. The lawyer really gets the larger slice of the melon and the poor employee obtains practically nothing.

The reason for making most of the above statements is to show that silicosis has become a depression disease or a racket in the industrial centers. The greatest percentage of these cases under litigation are not silicosis; therefore, I feel that a discussion of the differential diagnosis of silicosis is in order.

A thorough understanding of the healthy adult chest with its normal variations must first be undertaken. The National Tuberculosis Association<sup>1</sup> has attempted to outline the findings of the healthy adult chest. They state that wide variations in the hilum shadow and trunk shadows occur in routine examination of the chest films so that one must see a large number before he is qualified to judge increase from the normal. It must be remembered that repeated infections and age influence the density of these shadows. Calcifications and slight

thickening of the pleura are seen in healthy chests.

Repeated upper respiratory infections, and infections in the nasal accessory sinuses are among the most frequent causes of an increase in the broncho-vascular markings, especially in the lower right.

Asthma from all causes produces varying increases of the broncho-vascular markings. These markings are quite linear, fine and delicate, yet they are not characteristic of the condition.

Chest films of old people show an increase of the broncho-vascular markings which may be likened to the scar tissue produced by many infections and is a sign of old age. (Fig. 1.)

It can be readily seen that there are many variations of the normal trunk markings produced by the usual pathological conditions, yet, if the diagnostician is not familiar with the various types of changes they might be mistaken for silicosis. In my opinion silicosis in its earliest stages produces a different type of fibrosis than any of the above mentioned conditions. A careful study of this increase of the broncho-vascular markings will suggest silicosis and the history of the occupation will support the findings. I feel that silicosis produces a reticular, fine, linear, honeycomb fibrosis in the middle half of both lung fields. This fibrosis will not be seen in any other condition, except in those pathological conditions that affect the same anatomical structures as silicosis. (Fig. 2.) The fibrosis continues and then the more or less characteristic nodulation occurs. This nodulation appears as small, dense, very discrete areas of consolidation which involves the middle two-thirds of both lungs, sparing the apices and bases. These nodules then increase to the third stage or that in which are seen large areas of very dense consolidation scattered throughout both lungs and

\*Read at the 77th Annual Meeting, Kansas State Medical Society, Salina, Kansas, May 7, 8, and 9, 1935.

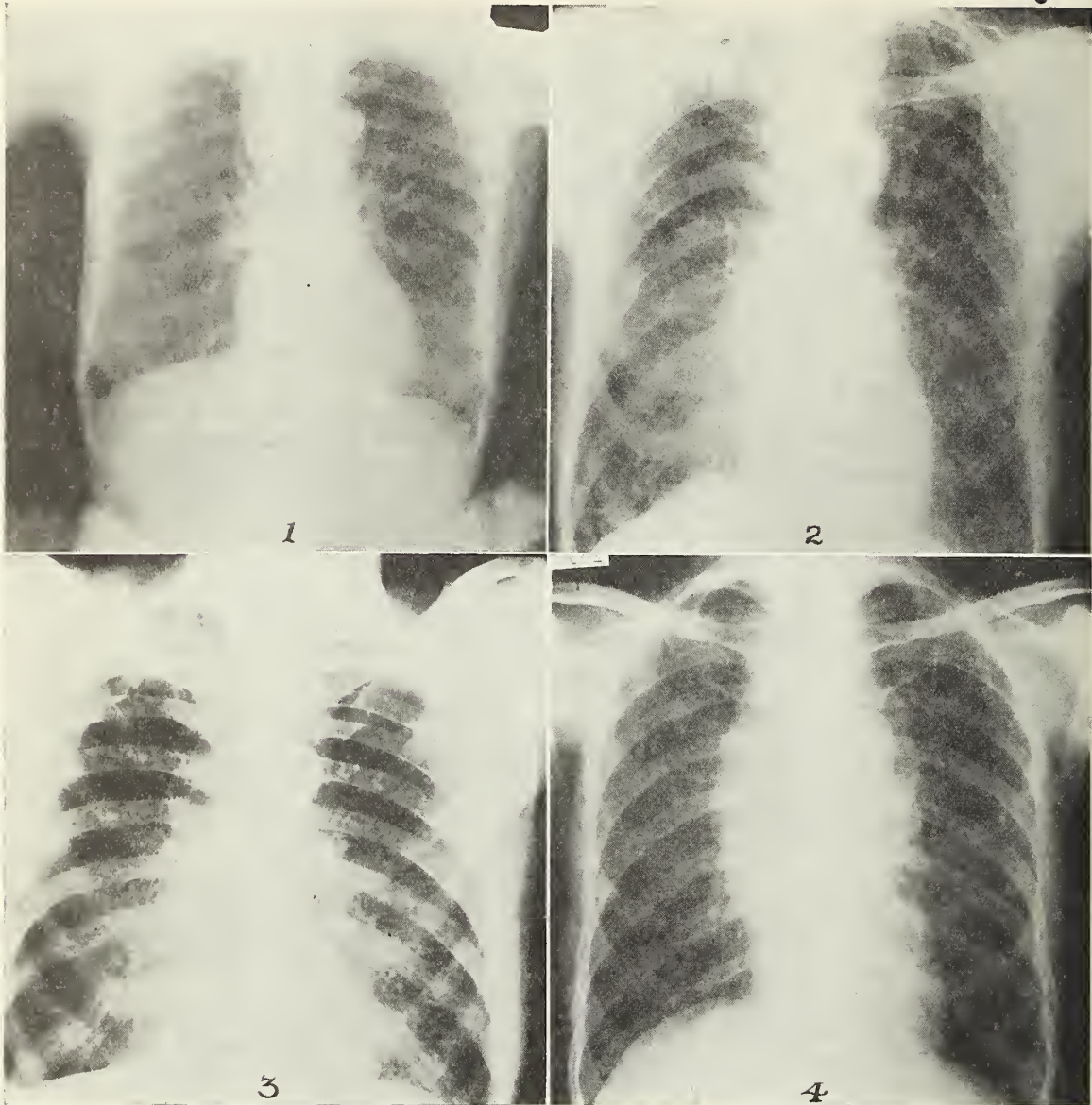


Figure 1.—Female age 70 with many attacks of asthma, and repeated colds. Note the marked increase of the bronchio-vascular markings yet no reticular fibrosis. No exposure to dust.

Figure 3.—Lymphogenous Metastasis. Note the marked similarity to Figure 2.

Figure 2.—Male, age forty-five, who has worked in the hard coal mines for eighteen years. Note the reticular character of the fibrosis that is characteristic of silicosis of this stage.

Figure 4.—Miliary tuberculosis. This infiltration is "snow storm"-like and is diffusely scattered from apex to base and has no linear characteristics.

which may or may not be complicated by atypical tuberculosis.

The differential diagnosis then rests more between those conditions that are similar than those which affect the same anatomical structures. Of course, these great variations of the normal produced by the scar tissue resulting from infection comprise the greatest number of cases that are under litigation. I have reviewed many of these cases and have found very few

in which there was even a question of doubt as to the existence of silicosis.

The real differential diagnosis then rests with lymphogenous metastasis (Fig. 3) and miliary tuberculosis (Fig. 4.) The latter involves the entire lung from apex to base on both sides with the typical "snow-storm"-like infiltration, while silicosis is confined to the middle half of the lungs and has more linear characteristics. Lymphogenous metastasis selects the same an-



atomical structures, namely the lymphatics and in my opinion would be hard to differentiate from the second stage of silicosis. The history in both conditions is very significant and finally determines the diagnosis.

#### BIBLIOGRAPHY

1. The American Review of Tuberculosis. Vol. XV, No. 4, April 1927.

### APPLICATION OF THE FRIEDMAN PREGNANCY TEST IN DIAGNOSIS OF HYDATIFORM MOLE AND CHORIONEPITHELIOMA

J. MILES NASON, M.D.

Kansas City, Kansas

#### REPORT OF AN UNUSUAL CASE

The following is a report on a chorionepithelioma developing following the removal of a hydatid mole twenty-five months previously, with no clinical evidence of a malignancy existing during that period. The unusual length of time elapsing before definite evidence of malignancy developed makes it of rare enough occurrence to be of interest.

The patient, a white female, age forty-one, housewife, first seen on April 5, 1935, complained of shortness of breath, pain in her right chest, and expectoration of bright red blood. She had been well until January 1935 when she expectorated bright red blood for one day. She had some shortness of breath from that time until the second week of April when she again had blood-tinged sputum for two days. She progressively lost strength, had night sweats, complained of being tired all the time, and of soreness and shooting pains in her right chest. About the middle of March, she developed a swelling in the right breast and complained of numbness and tingling in the fourth and fifth fingers of her right hand. Her past history was negative except that she had a supracervical hysterectomy for the removal of a hydatid mole November 1932 with an uneventful recovery.

Examination on April 5, 1935, revealed the following:

Middle-aged white female, lying propped up on four pillows in bed, very anemic, dyspneic, respiratory excursion almost entirely absent on the right side of the chest, and the right supra and infra claviclar fossae were filled with firm masses of tissue. On auscultation, a few

rales could be heard at the apex of the right lung, almost complete absence of all breath sound over rest of lung. Percussion revealed complete dullness of the entire right side of the chest.

#### LABORATORY FINDINGS

April 7, 1935, Friedman Test. Urine showed extremely high titre positive pregnancy tests. Blood examination, hemoglobin fifty-five per cent, red blood count 3,430,000, white blood count 15,850, polymorphonuclear neutrophils eighty-two per cent, lymphocytes seventeen per cent, eosinophils one, color index .80. Urine analysis negative.

A working diagnosis was made of a metastatic chorionepithelioma of the right lung. An x-ray plate taken April 12, 1935, showed a complete opacity of the right lung field with heart slightly displaced to the left with a diagnosis of massive hydrothorax.

On April 17, 1935 thoracentesis was done and 170 cc. of reddish brown, bloody fluid was withdrawn. The fluid had a specific gravity of 1.027 with a positive guaiac test. A Friedman test was done with the exudate from the chest which showed a strikingly strong positive reaction.

The following x-ray treatments were given:

Date	KuP	Ma	Filter		Dist.	Time	Area	
			Cu.	Al.				
April 17, 1935	200	8	.5	1	20	17 Min	R. Ant.	Chest
April 22, 1935	200	8	.5	1	20	17 Min	R. Ant.	Chest
April 25, 1935	200	8	.5	1	20	17 Min	R. Post.	Chest
April 27, 1935	200	8	.5	1	20	17 Min	R. Post.	Chest

No systemic reaction was observed from the x-ray treatments and after the second exposure the headaches and drowsiness were much relieved. She also breathed easier, had a better color and appeared improved.

She continued to clinically improve up until May 17, 1935, at which time she suddenly had painless, profuse, bloody stools. Concurrent with the hemorrhage she developed a thrombo phlebitis of the left leg which persisted until her demise. Under treatment, this hemorrhage from the bowel cleared up. A week later she had another period of bleeding from the bowel, this time having eight to ten very profuse bloody passages. This again responded to treatment.

From this time on until her death she had continuous blood-tinged stools, but no frank hemorrhages.

On June 1, 1935, she began having marked dyspnea, rapid heart, and slightly generalized edema. This became progressively worse. She

died a cardiac death on June 7, 1935.

A necropsy was performed on June 7, 1935 with the following findings:

Almost the entire right lung was involved with metastasis of a very friable and hemorrhagic character resembling in some places placental tissue. Hemorrhagic tumor masses were found in the right and left pulmonary arteries. The metastasis were also found in the liver, spleen and left kidney. That of the left kidney being quite a large metastasis measuring two and one-half cm. in diameter. The left ovarian and renal veins were distended with a gray spongy friable thrombotic like material attached to the wall of the vessels. The right ovarian vein was entirely filled with a cellular like tissue and just below its junction with the inferior vena cava was a mass of cellular tissue measuring  $5 \times 1\frac{1}{2} \times \frac{1}{2}$  cm. The uterus was absent.

Throughout all of the ileum were small polypoid masses attached to the mucosa, some as large as  $2 \times 3$  cm. in diameter and almost obstructing the lumen of the intestines.

#### HISTOLOGIC EXAMINATION

The tumor tissue of the lungs showed considerable necrosis, most of it having undergone more or less complete hyaline necrosis. Metastasis of the liver showed a very wild atypical peculiar type of tumor cell with large irregular multinucleated giant cells such as those seen in a nucleated syncytium. A striking tendency to hemorrhage was seen. A slight pigmentation was present.

The same type of cells were seen histologically in the intestine metastasis and also in the tumorous thrombi found in the ovarian and renal veins.

Dr. H. R. Wahl's comment on the necropsy was that death was due to an extensive metastatic growth derived from a syncytioma or chorionepithelioma following the removal of a hydatid mole about twenty-five months before. It is interesting to note that these tumor cells are seen running up from the ovarian veins to the renal veins, involving the vena cava and also the left femoral vein. A canalized thrombus is noted in a portion of the left femoral vein.

Extensive necrosis of the lung probably was due to the x-ray treatments.

Hydatidiform mole, also known as vesicular mole, myxoma chorii, or cystic degeneration of the chorion, is a condition in which the

terminal portions of the chorionic villi are converted into thin walled cysts. These cysts vary from a few millimeters to two or three centimeters in diameter and in a general way resemble small white grapes.

Each cyst represents the proximal part of the chorionic villi and are attached to the villous stems by a delicate pedicle. Although the entire chorion may be invaded, usually only a small portion of the tissue is involved in this cystic degeneration. Sometimes a small cluster of vesicles constitutes the entire growth while in others the growth may become as large as a six months pregnancy and weigh several pounds.

The ancients described this condition as vesicular mole. Actius of Amids and Hippocrates wrote of it in the sixth century. The unusual appearance of this condition and the mystery of its origin produced much diverse literature on the subject. At one time it was thought that each cyst was a living embryo. Others thought each vesicle represented an unfecundated ovum. Pare wrote of the case of Countess of Flanders giving birth at one time to 365 infants, of which 182 were christened Elizabeth, 182 John, and the odd one, after a debate by priests, was called a hermaphrodite and buried without baptism. Portal in 1865 described the vesicular mole quite accurately. Ruysch in 1891 advanced the hypothesis that the cysts were due to disease or alteration of the ovum.

Velpeau in the nineteenth century, was the first in observing that the cysts were distended chorionic villi. Virchow advanced the knowledge of their histological structure.

With Sanger's report of chorionepithelioma in 1899 and rapid confirmation that this condition was preceded by hydatid mole in half the cases, great interest was created as to whether the mole was an essential precursor for development of this malignancy. This view has since been proven erroneous. In 1795, Meekel reported a fatal case in which metastasis followed a uterine lesion in a woman who had had a mole pregnancy. Newman in 1897 believed in two varieties of moles, benign and malignant. He contended that in the former the proliferating epithelium is limited to the periphery of the villus, in the latter to the stroma. The present day opinion is that all hydatid moles are potentially malignant.

The true etiological cause of the formation of these moles is not known. Ballantyne's



theory is that the true etiology lies in some specific fault in development of the chorionic villi and is a degenerative change. The presence of an embryo in a hydatidiform mole is not rare according to statistics of the Mall collection. In these cases, 64.4 per cent contained fetuses. One case reported by Meyer, a seven months living fetus was delivered with mole filling a two litre jar. The evidence collected to date appears to indicate that they are the result of a teratomatous phenomenon, the changes occurring in the fetal membranes rather than in the embryo.

The frequency of occurrence of the vesicular moles is impossible to estimate. Percentages have been compiled by many and vary from .003 per cent to .006 per cent based on normal pregnancies. Meyer makes the statement that "Mole formation is a rare disease at or near term but probably one of the most common of all the diseases of the ovum during the early months of pregnancy."

The four cardinal points in diagnosing a hydatid mole, as given by Curtis, are:

(1) Enlargement of the uterus to a size greater than that of a normal pregnancy of corresponding duration, the uterus having a soft and elastic feel.

(2) Intermittent hemorrhage without known cause varying from slight spotting to profuse hemorrhage.

(3) The extrusion of one or more typical vesicles from the uterus, which of course is positive evidence.

(4) The palpation of the mole through the cervix uteri. Negatively there is absence of a fetal body and fetal heart sounds, and the patient feels rather ill.

Multipara are more often affected than primipara, the most common time is that of the middle of the child bearing period.

There appears to be two other conditions which occur concurrently with hydatid mole, namely nephritis and luteal cysts of the ovary. Syphilis and other systemic diseases apparently have no significance.

The relatively recent development of the hormone tests of Ascheim and Zondek, and Friedman have added another diagnostic procedure, which greatly facilitates in diagnosis of mole and chorionepithelioma.

Roessler, Zondek, Mack and Catherwood, and others have demonstrated that in cases of hydatidiform mole and chorionepithelioma the amount of anterior pituitary hormone (prolan

A) secreted in the urine is several times greater than present in normal pregnancy. Some investigators believe this increased production is a result of abnormal activity of the chorion.

Roessler reported the first positive reaction from the urine in a late case of metastatic chorionepithelioma. He found that the concentration of anterior pituitary hormone in the urine seven times greater than in normal pregnancy and that in hydatid mole two or three times greater.

Another diagnostic point is that in normal pregnancy the anterior pituitary hormone can rarely be demonstrated for several months. Also that following expulsion of a mole a persistently positive hormone reaction is certainly suggestive of the development of a chorionepithelioma or a return of the mole.

The mortality from hydatid mole depends upon the following:

(1) Hemorrhage before, during or after expulsion of the mole.

(2) Sepsis following expulsion.

(3) Spontaneous rupture of uterus and peritonitis.

(4) Degenerating changes progressing to chorionepithelioma. (Fifty per cent chorionepithelioma occur following moles, five per cent moles are followed by epithelioma, Williams-Graves give ten per cent.)

(5) Metastasis of mole has occurred before removal.

The old view that moles occur near the end of the reproductive period is erroneous. Many analysis of reported cases by Briggs, Brodhead and Paten, and others, shows that the average age in which moles occur as being about thirty years. All statistics prove that multipara are more susceptible than primiparas, the proportion being three to one.

It has been shown that moles may occur very early in gestation, may be aborted unrecognized, and later a chorionepithelioma results, without history of mole. Usually moles which give rise to symptoms develop after the third month.

The finding of luteal cysts of the ovary when a hydatid mole is present is a fairly regular phenomenon and Ewing quotes Patellanis statement that ninety-one per cent of mole cases present bilateral cystic changes. Recent work by Zondek and Ascheim has done much to clarify this relationship between these two conditions. The hyperluteinization, hyperemia and superovulation produced in the ovaries by

the anterior pituitary hormones, suggests that the ovarian cysts are the result of the large amount of anterior pituitary hormone found in the blood and urine of patients afflicted with hydatid moles and chorionepithelioma.

The treatment should aim at the immediate and complete removal of the mass as soon as diagnosed. The ordinary plan is to evacuate the uterus from below. Under surgical asepsis, the cervix is dilated to admit two fingers which are used to peel the growth from its uterine attachment. The uterine wall usually is so thin that even with the finger danger from perforation is great. Avoid placenta forceps and curet if possible because of danger of perforation and also of distal metastasis, as to the lungs, being produced by instrumental removal.

After evacuation, exploration with finger should be made to detect a possible chorionepithelioma. The evidence of a beginning chorionepithelioma is detecting a soft friable hemorrhagic area into which the finger sinks and from which small necrotic masses may be shelled out.

Curtis believes that on diagnosis that abdominal hysterotomy or hysterectomy should be done for the following reasons:

(1) Patient usually exsanguinated and removing vaginally usually means loss of more blood.

(2) Lower removal leaves doubt as to whether all the tumor is removed, impossibility in determining extent of damage of uterine muscle.

In making abdominal approach, it is possible to:

(1) Control hemorrhage better.

(2) Determine degree of penetration of syncytial masses into uterine muscle.

(3) Mole may be removed under the eye and uterine wall carefully inspected, thus determining more accurately whether malignant change is present or not.

If there is massive invasion, a supravaginal hysterectomy should be made. This procedure according to Curtis has a much lesser mortality with no greater morbidity.

Hydatid mole should be regarded as a tumor of great potential malignancy and its removal conducted to insure thoroughness of its evacuation together with thorough knowledge of its cellular character. Patients who have had this tumor should be under close observation for two years and Friedman, or Ascheim Zondeck,

test run at least each six months. If any intra-menstrual hemorrhage or spotting occurs, diagnostic curettage should be immediately performed.

Radium alone, or deep x-ray therapy, is indicated in all suspicious moles, as these cells are the type which succumb readily to radiotherapy, due to their highly embryonic and anaplastic character.

Schmitz reports a series of eight cases of chorionepithelioma treated with radium and x-ray with the following results:

(1) Two cases of malignant chorionepithelioma treated with radium and x-ray alone, well thirteen years and two and one-half years respectively.

(2) Three cases treated with hysterectomy, followed by radium and x-ray, one case well two and one-fourth years, one case one and one-fourth years, and one case three and one-fourth years.

(3) Two cases subjected to hysterectomy alone, one case died of infection and the other well nine months.

(4) One chorionepithelioma reoccurred after operation with metastasis in pelvis and brain, was unsuccessfully treated with x-ray.

According to Schmitz, if a malignant chorionepithelioma does not recur within six months, the patient will probably remain well, and if it does not recur within one year after cessation of treatment, the patient may be considered cured. The above reported case is certainly an exception to this rule.

#### GENERAL CONCLUSIONS

(1) Case reported of a benign hydatidiform mole removed by supercervical hysterectomy twenty-six months preceding beginning of existence of a chorionepithelioma.

(2) From evidence presented in the case just reported, it seems entirely probable that hydatid mole cell nests may be dormant in the larger veins of the pelvis for a great many months before undergoing malignant changes and metastasizing as a chorionepithelioma.

(3) The Friedman test is immeasurably helpful and necessary in the follow-up of any case which has had a hydatid mole.

(4) Both hydatidiform mole and chorionepithelioma succumb readily to radiotherapy and x-ray due to the highly embryonic and anaplastic character.

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## SOME FEATURES OF INFANTILE HYPOGLYCEMIA

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One is not apt to forget the striking picture of the infant in coma with air-hunger due to diabetic acidosis. Such an experience remains useful for the differentiation of subsequent cases of coma whether diabetic or not.

The first important procedure in the clinical study of these conditions is the prompt examination of the urine. Even though the urine is sugar free, one should proceed to determine the percentage of sugar in the blood, as the knowledge thereof may be of the greatest help; some cases of diabetes have intervals when there is a so-called high renal threshold for glucose, the sugar not appearing in the urine until the glycemia is much above the customary level. A diabetic child in our hospital recently showed no sugar in the urine with the concentration in the blood of 197 mg., 189 mg. and 231 mg. respectively, but at 363 mg. the urine contained about five per cent. The object of this report is to emphasize the usefulness of blood sugar determination in non-diabetic coma and convulsions, for it may reveal a state of hypoglycemia as the cause.

During the past year we had the opportunity of seeing two unconscious infants who illustrate the importance of keeping in mind the existence of two somewhat similar clinical conditions with opposite blood chemical and

metabolic significance. The summary of these cases is of interest.

Case 1.—A girl of fifteen months had always been well, with no digestive disturbances, and had been fed a dietary since birth which the mother felt had been appropriate. There had been no noticeable abstinence from food, nor any infection preceding the illness. The dates which follow, mark the course of the onset: September 18. Listlessness, drowsiness and more than the usual sleep were noticed this first day of the complaint; September 19. While the child played some, she was not so active. There was nothing unusual in her night's sleep. The mother when questioned stated that the urine had never been passed in abnormally large amounts; September 20. Uneasiness, drowsiness, thirst. The child cried until she was given plenty of water. The appetite was considered good, but vomiting occurred at noon and night; restlessness then more evident; September 21. During the early forenoon coma began. The child was brought into the hospital with a subnormal temperature; the weight of eighteen pounds would be interpreted as somewhat below the normal. Breathing was rapid and peculiar, characterized by a hiccough at each inspiration. The color was good. The liver was felt easily several inches below the costal edge. Physical examination showed nothing further.

The following are laboratory findings of interest: Blood, Leucocytosis 19,900; Neutrophils 69 per cent; Sugar .030 per cent (30 mg. per 100 c.c. of blood); Cholesterol 101 mg.; Spinal Fluid, Sugar 12.5 mg.; Urine, Negative.

The only explanation of the coma was the abnormally low blood sugar, with the subnormal temperature, a condition similar to that resulting from insulin overdosage.

As treatment the child was given glucose intravenously, in ten per cent solution, ten c.c. per pound of body weight, and repeated twice. More glucose was given than necessary, the blood sugar going too high, up to 273 mg., but no sugar appeared in the urine nor were there any bad results. The body weight increased one pound the first day as a result of fluids given. The temperature came up to 102 on the second hospital day and remained above normal for three days. The child came out of coma at the end of the first twelve hours in the hospital. A mild diarrhea developed for a few days. The liver underwent rapid reduction in size to

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normal during the hospital stay. It had evidently become enlarged rapidly whether as an acute infectious hepatitis or as a compensatory enlargement. Blood sugar stabilized itself at 75 to 100 mg. The body weight remained stationary. The child made a rapid recovery and has since been entirely normal.

Case 2.—Infant aged four months, weight eleven pounds. Had weighed only five pounds at birth, premature. This child never gained well, although it got plenty of breast milk for the first two months. Afterwards when put on a formula, it had done much better until the final week when it was difficult to get the child to take its feedings and to gain further.

The severe disturbance began one week before the time I saw her. The child had gradually become unconscious. I found the infant with exaggerated breathing, well described by the classic terms "Kussmaul" and "stertorous," the coma deep, eye reflexes abolished, the body temperature 101 degrees F. The infant was taken at once to the hospital. The urine showed a yellow precipitate when two drops were added to five c.c. of Benedict's solution. Acetone and diacetic acid were present. Blood sugar 0.28 per cent (286 mg. per 100 c.c. blood.) The acidosis was severe, and the case in a terminal and hopeless state. However, the suggestion of Hartman was followed: Two units of insulin were injected for each kilo of weight, and for the acidosis ten c.c. of sodium lactate solution in fifty c.c. of water intravenously per each kilo of body weight. The child died within a few hours before any further treatment could be followed.

#### DISCUSSION

The foregoing brief reports of two comatose infants represent conditions which have been considered rare at this time of life. But the impression is growing that diabetes in the first year is not so infrequent as the literature suggests. It is also becoming recognized that the opposite state of hypoglycemia occurs as a clinical entity which until recently has been overlooked. The picture is not well known; it has no simple laboratory tests to reveal it, nor are blood sugar determinations run routinely as is the present practice in diabetes.

It is not clear why this infant with hypoglycemia was unable to maintain its normal blood sugar level. Something acted to exhaust the mechanism of sugar control; apparently in this case it was not due to fasting.<sup>1</sup> If the

child lost the appetite or had an infection which reduced the intake of food to the extent which caused such a drop in blood sugar it was not recognized by the mother. Coma or convulsions are said to occur in the zone of forty to sixty mg. of glucose per one hundred c.c. of blood (.04 to .06 per cent.) Such a cause for convulsions would help one explain cases which the profession has ascribed to latent tetany, spasmophilia, or brain disease, in the absence of any proven cause.<sup>2</sup> Why it does not happen more frequently is difficult to say, since one sees instances of children undergoing fasting for a day or more at a time, not always due to febrile or infectious disease. It should happen to young children who have vomited all the food for several days, especially in pyloric stenosis. So far as I know there is no proof that it does.



Acute Infectious Hepatitis or Hyperplasia with Hypoglycemia. The lines marked across the abdomen show the levels of the liver as it began to subside during treatment.

Newly born infants may have a hypoglycemia. Instances are being more frequently reported; the number would be larger if the



blood were more commonly examined for the sugar content. This will gradually become the case when the technic of the micro-method with a few drops of blood has become familiar to physicians generally, or is in general laboratory use. Toxemia of the late months of pregnancy is reported as sometimes causative of low blood sugar and death in the newborn child.<sup>3</sup>

When the pregnant mother has diabetes, the newly born offspring may have hypoglycemia, due to the increase in insular tissue in the fetus from the stimulus which has been produced by the high blood sugar of the mother. The islands are said to become hyperemic and hypertrophic causing a condition of hyperinsulinism in the child after birth.<sup>4</sup>

Hypoglycemia may be present in the premature infant during the early months of life, explained on the anatomical fact that the liver and its functions are immature in premature infants, thereby interfering with the production and storage of sugar. Van Creveld has advanced the idea that hypoglycemia is hepatogenic rather than pancreatogenic in the premature infant.<sup>5</sup>

One of the last instances of true cyclic or periodic vomiting that I saw was quickly brought out of vomiting and coma by intravenous glucose solution. Hypoglycemia was present during the comatose period, with a rise to normal during convalescence. Low carbohydrates in the feeding of the child that vomits periodically may bring on an attack. The symptoms are much the same as in hyperinsulinism.<sup>6</sup>

Hypoglycemia has followed diphtheria, probably the result of liver damage, and degenerative changes which would affect its glycogenic function.

#### CLINICAL COMPARISON

In hypoglycemia the coma is more abrupt in its onset. A history of recent hunger, starvation, or of a low dietary intake from any cause such as an infection, would suggest that the depression of sugar in the blood may be the cause of the coma or convulsions. The breathing is shallow, the skin is cold and moist, the temperature is subnormal. There is no sugar, no acetone or diacetic acid in the urine. Administration of sugar by the mouth or glucose solution by the vein brings the child out of coma.

In diabetic coma the history makes the diagnosis easy; overeating, overdrinking,

polyuria, loss of weight; coma advancing slowly but steadily getting deeper. The breathing is deep and exaggerated. The skin is warm and the body temperature not subnormal, usually somewhat above. The urine contains acetone, diacetic acid, sugar and the blood is low in CO<sub>2</sub>. The glucose in the blood is so high that no buffer of sugar is needed for insulin administration.

In hypoglycemia the history and symptoms may not be of much help, but one has taken the first step in its diagnosis when he has excluded diabetes in any comatose child.

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#### A PERSONAL EXPERIENCE WITH ANGINA PECTORIS\*

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The subject of angina pectoris was given to me to present before this society, but before going into detail on this most important and prevalent symptom complex I believe it would be a good idea to go back a few years and present the symptoms and history that led up to the real development of my own individual case of angina pectoris.

In January 1927, I had an acute attack of appendicitis, which necessitated an immediate operation. This was performed and everything went off nicely, until eight o'clock on the fourth night, when, while talking with a fellow practitioner, I was seized with a very sudden, burning pain in my chest, radiating toward the left, down the left arm and up the left side of the neck to the left mastoid. This was accompanied with shortness of breath and great fear of impending death. I had the nurse take the covers off the bed and also loosen the so-called pneumonia jacket, in which my chest was encased. The pain, which was different than any pain that I had ever had in my life, was becoming more severe, so I ordered that

\*Read before Cowley County Medical Society, November 21, 1935.

the window be raised for I was air hungry. I asked the nurse then to call my wife and the attending surgeon for "I had an embolism, and was soon going to pass out of the picture." My wife was not called but the surgeon came in, asked me my symptoms then took off the dressings, pulled up on one of the retention sutures and immediately the pain began to recede and finally disappeared altogether. The laugh then was on me and I was informed that I was only nervous and that there was absolutely nothing wrong with me. I took all this for granted and was perfectly satisfied with the diagnosis. Again, at two o'clock in the morning, while asleep, I was suddenly awakened by the same damnable symptoms, and here and then I was really positive that my symptoms could not possibly be due to nervousness. This attack lasted at least five minutes, then passed off and everything was within natural limits from then on, and I was dismissed from the hospital five weeks later.

My health was excellent up to November 5, 1930. At two o'clock, while taking care of an obstetrical case, without any premonitory warning and like a bolt of lightning from a clear sky, I was seized with that same peculiar burning pain in the chest, with the same identical radiations. The storm was weathered and I went on my way rejoicing.

That morning about ten o'clock I left my office to make a call, and hurried across the street. The car door was difficult to open so I gave it a sudden jerk and immediately the same old burning pain began its antics. It was so severe that I had to sit down on the running board until it subsided. It appealed to me then, for the first time, that I might have angina pectoris. I dropped into Dr. Hellweg's office and explained my symptoms to him and he thought the diagnosis was positive. The next day I went to see Dr. Marchbanks, Pittsburg, and he corroborated the diagnosis. He ordered me to bed for a week but the attacks became more frequent so the following week I went to Kansas City and gave Dr. Peter Bohan a chance at the case, hoping that he would make something else out of it, but the same diagnosis was made and I was ordered to bed for six weeks with the usual medication of nitro-glycerin and euphyllin. The attacks became more severe and more frequent and I gave up the bed at the end of eight weeks in disgust, and went about my business of practicing medicine in general together with my

heavy obstetrical work, filling up, as it were, on nitroglycerin and amyl nitrite, waiting daily for the fatal termination of the symptom complex and with it the everlasting relief of this terrible life of hell.

Angina pectoris is not a disease in itself but is best defined as a symptom complex characterized by pain in the chest which may be of the utmost intensity, rarely failing to convey with it the fear of the conviction of impending death. Angina pectoris kills through the vagal inhibitory mechanism in the heart. The original morbid process which sets in motion the fatal cardiac inhibition is of varied origin.

Medical opinion regarding the causation of angina pectoris has varied during the last century and a quarter, since Heberden first called attention to this group of symptoms, according to the changes in fashion of medical theories. At first, it was caused by spasm rather than inflammation. Later, it was a question of arterial pressures and tension. At one period, the discussion hinged around the differences in the blood supply of the coronaries and the spasm or intermittent claudication of these arteries. Again it was thought to be due to some disease of the myocardium. Running through it all was the urgent necessity in the medical mind of finding the definite pathologic lesion to explain the group of symptoms which could so suddenly appear without previous warning in a man in vigorous health, and in many instances be so quickly fatal. For instance, in my own case, I was absolutely without complaint, worked all day long and most of the night, irregardless of conditions or climate, and no one felt better than I, but suddenly, and without the least warning, I was seized with an attack while walking across the street. From that moment on life has been a hell. Most authorities contend that in most patients dying of angina, the coronaries were diseased. Coronary disease has usually been considered as the underlying cause of the pain and cessation of cardiac action. This has been generally accepted in spite of the fact that post-mortem examination showed that the majority of patients with diseased or calcareous coronaries had not suffered during life any symptoms of angina pectoris, and in many patients who had died of angina, the myocardium was practically normal and the coronaries healthy. I saw many x-rays of calcareous coronaries and also calcareous deposits in the heart itself, in Peter Bent Brigham Hospital, in Boston, that



gave no history of anginal pains. A great many authorities contend that the most frequent underlying morbid process of angina pectoris is an aortitis in the subsigmoidian area of the aorta, but on the other hand Cutler of Boston is very reluctant to do a thyroid ablation on any patient who definitely shows an aortitis. One such case was in the hospital at the time I was there and he refused to operate. This individual showed a positive Wasserman and evidently his symptoms were caused by a syphilitic aortitis.

A sudden increase of blood pressure produced by exercise, particularly a slightly increased rapidity of walking after a meal or walking against the wind or up a distinct grade or ascending stairs are all sufficient to start the reflex into activity. It may follow any exciting emotions or it may follow the acts of defecation or of coitus. A person who is in such unstable equilibrium is in danger from any excessive emotion and especially from anger or excessive joy. One could write dozens and dozens of pages on the so-called actual and presumptive causes of angina and when he finished he nor his listeners would know which to select as the true and actual causes of the condition. So far as I am concerned I do not think that any one, big or small, in the professions knows definitely what is the real etiology of the symptom complex. There are no tests, laboratory or otherwise, to prove that the condition actually exists. All we have on which to base our diagnosis is the word of mouth of the individual patient.

Vasquez divides the etiology of angina pectoris under two heads, first that of angina produced by effort, and secondly that of repose. The former follows exertion and is due, he claims, to lesions in the aorta especially in the subsigmoidal area. The latter occurs during sleep and in Vasquez' opinion the painful reaction follows a distention of the left ventricle and secondarily of the aorta, the idea being that the left ventricle as well as the aorta, surprised suddenly by hypertension is distended excessively and the excitation of the nerve filaments of the myocardium, in consequence, is transmitted to the cardiac plexus producing the symptoms of angina pectoris. In my own case there is very slight rise in blood pressure so I fail to see where the hypertension comes into play. I have had both types but am thankful to say that I have not had an attack in repose since the ablation. Personally I believe

that the symptom complex is produced by some disruption of the ductless glands, which is brought about by some external stimulus, which in turn stimulates, irritates or upsets in general, the sensory mechanism in the coronary locality, and I cannot but believe that the mischief makers will some day be found to be in the adrenals, the pituitary and possibly the thymus.

I have noticed two distinct types of pain: One is a hot burning pain beginning generally, substernally or above the left nipple, and gradually radiating over the chest and going down one or both arms, but more frequently the left arm, centralizing or localizing itself in the shoulder or the bend of the elbow, but in the majority of instances in the elbow. This elbow pain is the most disagreeable pain of which I know.

The initial pain can originate in any part of the chest, in fact it has been known to originate in the lower extremities, as was recorded by Osleer. I have seen it begin precordially, substernally, in the epigastrium, over the region of the gall-bladder, under the right or left clavicle or in the superasternal notch, but the radiation over the anterior thorax and the termination in the bend of the elbow is invariably the case.

The second form of pain is an agonizing, non-burning pain in the region of the heart, in fact it feels as though it were directly in the heart itself. It starts out lightly and then ceases for an instant and gives the possessor of same the impression that it is of short duration and may vanish for good, but it gradually increases in severity and radiates posteriorly into the angle of the lower end of the left scapula. This form of pain is most terrifying and explosive and gives one the sensation as though the heart itself is about to burst or be torn asunder. It is not continuous in character like the radiating or burning pain but spasmodic with intermissions of the fraction of a second. In both types there is shortness of breath or better an air hunger, for you can breathe with impunity but the air intake seems to be worthless, in other words, your breathing seems to do you no good—there is something lacking.

The bursting type of pain in my own case does not seem to respond very much to the use of amyl nitrite perles or to nitroglycerine, but requires a hypo of one fourth to one half grain of morphia.

There is a characteristic livid, death like pallor to the face of the patient during and

after the angina pectoris attack, the features are pinched, the eyes are sunken, with dark circles surrounding them. The patient looks haggard and extremely fatigued and worn out. There is a sense of extreme weakness over the entire body but more pronounced in the arms and forearms. After the attack he wishes to be left alone.

The pulse may be normal or slightly accelerated. The blood pressure as a rule is slightly raised but may be absolutely normal. One thing that surprises me mostly, is the fact that no matter how severe the attack of angina pectoris, with its stormy, thunderous and most damnable upheaval of torment, torture, agony and living death, the stethoscope furnishes little or nothing to the trained ear of the physician, of any disturbance or abnormal condition within. The rhythm, the systolic and diastolic sounds and the rate of heart beat may all be absolutely normal in character.

A series of ninety patients with angina pectoris of effort was observed over a period of two and one half years by W. Evans and C. Hoyle of London with special reference to the comparative value of certain drugs used in continuous treatment. Syphilitic angina pectoris was excluded and coronary thrombosis was only considered as a complication. All the patients were ambulatory. The following drugs were tested: Sodium nitrate, mannitol, hexanitrate, erythrol, potassium iodide luminal, chloral, morphine, papaverine, phenacetin, diuretin, euphyllin, belladonna, digitalis, etc. The various drugs were administered over a period of two to four weeks at a time or longer. As a control in each case, a placebo was substituted for an active drug. The results showed a measure of improvement from every remedy tried, and at least as great an improvement during treatment with placebo.

This universal efficacy can be explained only by natural variations in the severity of the symptoms, which give a spurious value to each remedy. Two factors probably contributed to the fact that placebo treatment gave better results than most of the active drugs and appeared statistically to be the better form of treatment. In the majority of cases, a placebo was the first medicine to be given so that mental suggestion apparently added bias in its favor. Placebo treatment was repeated more often than any single active drug so that it coincided more frequently with a natural remission. Though hardly convincing, there was some reason to

think that chloral, morphine, papaverine and phenacetine had a trifling influence in controlling the group incidence and severity of attacks.

The authors were unable to convince themselves that any drug tested is worthy even of trial in the routine of angina pectoris.

As none of these remedies are capable of lessening the frequency or severity of angina attacks, there is all the greater need for a study of the application of these general measures known to control them and to promote the wider use of vasodilators which are so often successful in the palliative treatment or even in the prevention of particular attacks.

I have tried on myself personally, euphyllin, theocalcine, aminophyllin, theophyllin, theobromine, digitalis, potassium iodide, luminal, pantapon over a period of time, without the faintest noticeable results, relative to the relief of the frequency or severity of the attacks. Through my own personal experience there are only two drugs for the relief of an attack of angina pectoris, namely; nitroglycerin and amyl nitrite and nitroglycerin is my preference, 1/100 gr. hypodermic tablet placed under the tongue.

The only measure that has had a very beneficial effect on the frequency and severity of attacks has been total ablation of the thyroid done by E. C. Cutler, of Boston, in March, 1934. I was totally free from attacks until December, 1934, when I began to have recurrences of attacks but the attacks are not one-half as frequent and not one-tenth as severe, although I have had four fairly severe seizures up to the present time, of the second form of pain.

In doing a total thyroidectomy the gland must be nontoxic, no symptoms of thyrotoxicosis and the angina pectoris must be of non-syphilitic origin.

In conversing with Cutler at the time relative to the probable reasons why such phenomenal results were obtained by this operative procedure he explained it as follows—of course this procedure was in its infancy then and the explanation was merely hypothetical—the healthy thyroid evidently contained an unidentified hormone which under certain conditions caused the coronaries to absorb more adrenalin than normal on effort, thus producing a spontaneous constriction of the vessels and thereby decreasing the normal amount of oxygen necessary for the life and contractility of the myocardium. The thing



that perplexed me was the fact that he then informed me that I was to take dried thyroid for the remainder of my life. Why then was this so-called unidentified hormone not replaced in the blood stream by the ingestion of the dried gland—I was then informed that evidently this hormone failed to exist in the dried state. The explanation appeared feasible and very reasonable. Since that time, through deep and thorough experimentation and investigation I believe they have come to the final conclusion that the relief of the anginal attacks, after ablation, is due merely to a disturbance of the sympathetic nerves around the thyroid, brought about by the removal of the living gland. In other words it appears to me to be another way of performing a cervical sympathectomy. I was very much afraid of this at the time of the operation and while I was still on the operating table, for the reason that the very instant the thyroid was removed, there was immediate and spontaneous cessation of the thoracic constriction, which tightness in my case, was almost continuous and very annoying. I thought at the time that if the condition was due to an unidentified hormone, then why should the relief be so sudden, for surely I must still have some of the hormone in my blood stream, even though the source of supply was removed.

About six weeks after complete removal of the thyroid gland the basal metabolic rate begins to fall and if it goes down far enough then the patient presents the following symptoms: Puffiness of the eyelids and the tissues surrounding the eyes. More or less puffiness of the tissues of the face, which is generally more pronounced in the temporal region, which makes a dent or impression upon continued pressure in that region. There is a sense of thickness of the hands upon closing same. Slight and very slight slowing up in the activity of thought but there is an absolute accuracy in same. There is a perceptible dryness of the skin, especially of the hands, which is very noticeable and disagreeable. There is a great sensitivity to cold. Severe cramping of the muscles of the neck and the planter surfaces of the feet, which comes on only on lying down. These no doubt are symptoms of a myxedema and are not noticeable until the B.M.R. falls below minus twenty-five and remains there for some time. It is not necessary to permit these symptoms to appear but I allowed them to happen in my case in order to appreciate the

action and reaction of my thyroid intake, or in other words for experimental purposes only. These symptoms are very easily overcome by taking one-tenth grain of Armour's thyroid every other day and by the way do not give one quarter grain of the gland daily as the Boston investigators advise you as this dosage will force your patient's B.M.R. up to a plus before you can hardly realize it. If you have them take a B.M.R. monthly or bi-monthly only, the B.M.R. may be advanced so high as to give the individual a fatal attack of angina pectoris. I have taken mine daily for weeks.

I used to think that I felt better with a minus twenty B.M.R. This was during the first nine months after my ablation, but after that time had elapsed I could see no difference between a plus two and a minus thirty-two. I have come to the conclusion that the lowering of the basal metabolic rate has nothing to do with or rather plays a very small part in the relief of the anginal attacks as I have kept an accurate record of my B.M.R. readings, and have gone so far as not to take any thyroid intake over a period of twenty-eight days and my attacks came on just the same with equal frequency but possibly not so severe. I believe that in the removal of the gland the patient becomes more inactive, that is purposely, and the psychological effect on the individual is such that he slows up physically and somewhat mentally, he guards himself against excitement, anger or any other stimulus that might incite adrenalin output or in other words he forces or educates himself through fear of an attack. He guards against heavy meals, fast walking, emotional enterprises or anything else that he learns might produce an increase in adrenalin output and thus precipitate an attack of his angina.

Summarizing, I would like to state that I find it takes from four to eight days for the ingested thyroid to have its maximum effect, after total ablation of the gland.

I lower my B.M.R. in the hot weather and raise it in the cold or winter.

In the summer I feel no differently with a plus two than I do with a minus thirty-two. This winter, with a minus thirty B.M.R., my attacks have increased in both frequency and severity. With a minus five they have not been so severe but almost as frequent.

Smoking has but little effect on my attacks but I feel sure that it has some.

Stimulants such as coffee, tea, and the in-

toxics positively do have a decided effect on the severity and frequency of the anginal attacks—anyway they do in my case, as I have given them repeated trials, from an experimental standpoint, and in each case, without exception, the results have been the same.

When taking theobromine, pheno-barbital and potassium iodide tablets I make it a practice to take one three times daily for two weeks, then I omit them for a period of one week. The omission is to prevent agranulocytosis, from the continued use of the pheno-barbital, which, authorities claim, might occur.

Whenever there is the slightest sign of fibrillation—give three grains of quinidine three times daily in order to overcome it and thus prevent dilatation of the left ventricle, with the resultant sudden death. I myself, would not advise quinidine unless there is fibrillation, for I have tried it on myself, and, at the end of three days I had the most damnable attacks of angina with the slightest exertion, even turning over in bed bringing on one. Three days after discontinuance of the drug, this condition subsided, so I am sure they were, without question, due to the quinidine. These attacks were so frequent and severe that I have not had the nerve to take any more to prove my assertion at the present but I may do so when the warm weather approaches.

I forgot to mention the fact that I have had more gratifying results medicinally from theobromine phenobarbital compound of Upjohn, which I have been taking for the past four weeks, than any preparation so far that I have had any dealings with.

In the A.M.A. Journal of July 20, 1935. Chopra of India, after eight injections of emetine in rabbits curtailed the epinephrine content of the normal animal, from 3.42 mg. per gram of the gland, to .87 mg. per gram weight of the gland. The iodine content of the thyroid was decreased and runs more or less parallel with the epinephrine. Although no mention was made of the fact, nevertheless it appeals to me that such treatment might, some day, be in line for the relief of angina pectoris, due to the fact that there is such a wide decrease in the epinephrine content of the individual.

Now regarding diet, I believe a small breakfast must be insisted upon. The evening meal should be extremely limited and the patient must refrain from any copious amount of liquids at night. The noon meal, no matter how large, seems to have little or no effect on

bringing on an attack. Anyway such has been the experience in my own case. Why this should be, I am unable to explain.

#### SUMMARY

Terrible mental aspect. The coronary artery. Action on heart muscle at site of constriction. Pathology. A symptom complex and not a disease. Action of ablation on memory and concentration of thought. Any condition that might precipitate an attack should be preceded by a dose of nitroglycerine.

### POLYCYTHEMIA VERA\*

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Polycythemia vera is a chronic progressive disease characterized by marked increase in the blood cells and especially the red blood cells, a cyanotic appearance, and enlargement of the spleen. The clinical picture is in many respects the opposite to that of primary anemia but is relatively less common in occurrence. The symptoms which are referable very largely to the sensory nervous system are so varied and indefinite as to suggest the complaints of the neurotic and are therefore somewhat of a hindrance in making a diagnosis. Observation and treatment of a case for over two years with phenylhydrazine hydrochloride has provided an opportunity for continued observations regarding the progress and treatment of this disease, and the feeling that a brief discussion at this time might prove interesting.

Polycythemia vera was first described by Vasquez<sup>7</sup> in 1892, but in this country it received very little attention until Sir William Osler drew attention to it in 1903. Eppinger and Klos<sup>2</sup> first used phenylhydrazine as a therapeutic agent in treating clinical cases in 1918 and since that time there has been a fairly abundant literature on the subject. Most of these writers have used phenylhydrazine hydrochloride in treatment and report favorable results. However, Giffin and Conner<sup>4</sup> reported four fatalities following its use and urged several precautions which will be discussed later.

The disease occurs most often among men from thirty to sixty years of age. The onset is

\*Presented at St. Francis Hospital Staff Meeting, Wichita, Kansas, January 13, 1936.



gradual and silent so that the average patient cannot tell when symptoms began. The appearance of the patient is very suggestive of the chronic alcoholic. Malar areas are flushed and lips darkly cyanosed, the nose dark reddish blue, and the sclera of the eyes injected. Fingers and toes are cyanotic. Brockbank<sup>1</sup> in analyzing fifty-six cases in 1929 found the complaints largely referable to the sensory nervous system but in such a manner that they had no localizing value and so misleading as to suggest functional or neurotic disturbances. He lists these in order of their frequency as headache, vertigo, mental impairment, weakness, paresthesias, indefinite pains, and easy fatigability. Headaches are dull in character and irregular in location and occurrence. Vertigo varies from mild dizziness in which gross coordination is disturbed to attacks of severe vertigo in which the patients have to sit down. Mental impairment assumes various forms such as mild transitory confusion, slight loss of memory, and slowing up in speech and in thinking. Paresthesias are described as burning, stinging, and prickling sensations in various parts of the body. Our case noticed this mostly after going to bed and complained that he had to keep his feet exposed at night on account of burning. He also had generalized burning and stinging after bathing which was so severe that bathing had become a severe ordeal to be endured as little as possible. He received some relief from aspirin and usually took ten grains before bathing. Brockbank describes other cases with "burning in the throat," "coldness of one side of the body," and "prickly sensations in one hand." Many patients complained of vague pains in the abdomen, legs and arms and practically all cases had gradually increasing general weakness and exhaustion. Other writers have mentioned many other symptoms just as indefinite but these are the most common and serve as guides in diagnosis.

The etiology is unknown. There is a general stimulation of the hematopoietic system without a stimulation of the organs that ordinarily provide a balance by destruction of the blood cells. Kennedy<sup>6</sup> believes that in this condition there is a great increase in the intrinsic factor of Castle which is lacking in pernicious anemia. The consideration of the anemias, leukemias, and polycythemia suggests the possibility of some relationship between these diseases with some factor being present or absent in varying

degrees in all of these conditions and that possibly all are related.

The pathology consists of over-stimulation of the bone marrow with definite hyperplasia of the erythropoietic and leukopoietic areas. The spleen is enlarged and congested. Arterio-sclerotic changes are common. Vessels of the brain and viscera are tortuous. Thrombosis and hemorrhages are common. Increased blood volume and increased blood viscosity are accompanied by hypertension which tends to increased sclerotic changes in the vessels. The red blood cells are largely normal as are the white blood cells, but a small percentage of immature cells are reported by some writers. The gastric juice contains free hydrochloric acid within normal limits.

Treatment was largely ineffectual until Epplinger<sup>2</sup> and Kloss first used phenylhydrazine hydrochloride clinically in 1918. X-rays of the long bones has had some advocates but has not proven highly satisfactory. It is difficult to be sure of the effect of x-ray dosage on individual cases and x-ray treatment cannot be retracted once it has been given. Brown and Giffin<sup>2</sup> found that an initial course of phenylhydrazine of from 3.6 gms. to 7.6 gms, given in doses of 0.1 gm. over a period of about ten to thirteen days, that most patients developed a satisfactory blood destruction. They also found the effects of the drug continued for about ten days after it had been discontinued and that it was wise to discontinue the drug when the red cell count had dropped to 4,500,000 per cu. mm. Some cases developed a blood destruction crisis in which the destruction once started continued to an alarmingly low level. Kennedy<sup>6</sup> found it necessary to resort to blood transfusion in his case on this account.

The variation in response to treatment by patients and the cumulative effects of the drug urge great caution. Also a severe crisis with rapid blood destruction lends itself to venous thrombosis in many cases which is always undesirable and may lead to a fatality. It would probably be more sensible to offer these patients a much longer preliminary course of treatment and use perhaps six or seven doses each week rather than a shorter and more intensive course of treatment. Giffin<sup>4</sup> and Conner feel that phenylhydrazine should probably not be given under certain conditions as follows:

1. Patients with advanced polycythemia vera of a grade necessitating confinement to bed.

2. Patients over sixty years of age with even fairly severe arteriosclerosis.

3. Patients who have a history of previous vascular accidents. They also state that initial course dosage should be kept low, possibly from 1.5 to 3.5 grams over a period of ten days or less, depending on the hemolytic action of the drug in the individual case.

During treatment the patient should be kept up and about the hospital and grounds. This activity tends to prevent thrombosis. In case of thrombosis, however, bed rest is mandatory and usual measures of treatment should be instituted.

After the initial course of treatment a maintenance dosage of phenylhydrazine to maintain a relatively normal blood count is desirable. This dosage must be determined in each individual case. In the case observed by us the average dose has been 0.1 gm. daily for five days a week. At times this was not enough and seven doses a week were necessary for some time. When the blood count is maintained at approximately normal levels symptoms mostly disappear and the patient feels fairly well. He is usually able to tell when his maintenance dosage of phenylhydrazine is too high or too low.

There has been some fear of phenylhydrazine on account of experimental toxic effects on the liver and kidneys. Experimental studies and clinical studies however fail to justify this fear. In 1928 Allen<sup>3</sup> and Giffin gave large doses of the drug to dogs orally over a period of eight months and at the end of this experiment subsequent tests for liver and renal function were made and found to be within normal limits. Steely<sup>8</sup> reported one case treated with phenylhydrazine for seven and one-half years without signs of damage and concludes that it has no bad effects on the liver. Stone,<sup>5</sup> Harris and Bodansky believe that acetyl phenylhydrazine is just as effective and less likely to have toxic effects but most writers have continued to use phenylhydrazine hydrochloride.

#### CASE REPORT

The patient, a white male, aged fifty-two, was first examined at the office on December 12, 1933. He complained of dull headaches and pain and stiffness in the back of the neck and shoulders; "stinging and burning" all over the body especially after bathing; redness and "smarting" of the eyes; burning of legs and arms at night causing him to throw off the

covers; indefinite distress in the abdomen after meals, and a gradual and progressive loss of strength and endurance during the past year. He had continued to do most of his work as a farmer but in recent months had been unable to do the heavier parts of it. He did not know just when the present illness began but had noticed some symptoms for several years and during the past year was sure that his health had been definitely worse.

Past history: Tonsillitis as child. An indefinite history of rheumatism as a child involving right knee, about which the patient is not clear. Pneumonia as a child. Influenza in 1919—fairly severe. Tonsils removed at the age of forty.

Family History: Mother living at seventy-four. Cerebral hemorrhage—June, 1933. Father died at seventy-five—had heart trouble and died following an accident. Five brothers and sisters living and well. Two brothers and sisters died in infancy. One child living and well, age twenty-five. One child died at birth. No diseases similar to that of patient among relatives.

Physical Examination: Weight 153½; height sixty-one inches; Temperature 97 degrees; Pulse 72; blood pressure 160/90. The patient appeared to be cyanotic. The conjunctivae were injected; the lips and other mucous membranes were dark red in color. The hands and feet showed dark reddish coloring. Capillaries of feet distended producing a dark reddish mottled appearance. The heart measured 6 inches by 4¾ inches with a definite systolic murmur heard about equally at the apex and at the base. It was not transmitted. The spleen was definitely palpable but not greatly enlarged. The remainder of physical examination essentially normal.

Laboratory Findings: Blood: Hemoglobin 123 per cent; R.b.c., 9,570,000; W.b.c., 20,500. Small lymphocytes 17.5; large lymphocytes 1.25; large mononuclears 4; polynuclear neutrophils, 74; eosinophiles 3; no embryonic forms found. Bleeding time one and one-half minutes; coagulation time nine minutes. Sedimentation rate one in one hour. Wasserman: Negative.

Urinalysis: Negative except for albumin, one plus, and 10-15 leucocytes per centrifuged field.

Ewald: Free HCL twenty-three degrees; total acidity fifty-five degrees.

Electrocardiogram: Shows a regular rhythm



of sinus type. There is no delay in conduction time but P waves are abnormally high and T 3 is inverted. X-ray of chest, skull, urinary tracts, stomach, and colon show no evidence of pathology.

**Course and treatment:** The patient entered the hospital and was given phenylhydrazine hydrochloride in doses of one and one-half grains beginning with one dose daily and gradually increasing until on the tenth day five doses were given. Daily blood counts failed to show much change up to this time, the hemoglobin being 105 per cent and r.b.c. 7,000,000. However, on this dosage the urine became rapidly darker and on the sixteenth day the hemoglobin had fallen to ninety-five per cent and r.b.c., 5,220,000. The icteric index was thirty-seven. The phenylhydrazine was discontinued after a total of eighty-five grains had been given in sixteen days. The patient had a slightly jaundiced appearance. Throughout the treatment as far as possible the patient was kept up and around with frequent walks during the day. During the next eleven days the accumulative action of the drug gradually produced a severe secondary anemia—the hemoglobin reached forty-five per cent r.b.c., 2,410,000; and w.b.c. went up to 34,800. On the nineteenth day thrombosis occurred in left leg below knee and gradually extended upward to external saphenous vein and necessitated bed rest, elevation, and local heat. On the thirty-second day there was pain and tenderness in calf of right leg although a definite thrombus was not found here. The patient gradually recovered and was able to leave the hospital at the end of two months with hemoglobin of eighty-one and r.b.c. of 4,450,000.

Since his dismissal from the hospital he has been practically on continuous treatment with phenylhydrazine, taking at first two doses a week and mostly five doses a week to keep the hemoglobin at one hundred per cent and the red cell count near 5,000,000. At one time for a period of a month he required seven doses a week to maintain this count. However, during the past two months it has been possible to gradually reduce the dosage to three doses a week.

During the two years when this patient has been under observation, he has on the whole felt much better. The symptoms have been very much milder although still present. He has been able to continue with his occupation although not attempting heavy work. No un-

toward effects have been found with frequent blood and urine examinations, and at present he is taking three doses of phenylhydrazine a week and his most recent count recorded hemoglobin, 96 per cent r.b.c., 4,980,000; w.b.c., 16,400. Differential counts have remained approximately the same as the original count. The patient has learned to increase or decrease the phenylhydrazine within certain limits by observing his color and observing the increase in symptoms. He is being seen about once a month at the office.

#### SUMMARY AND CONCLUSIONS

Polycythemia vera is a chronic progressive disease probably caused by an increase in some factor which is absent in pernicious anemia. It can be treated successfully and safely with phenylhydrazine hydrochloride. Phenylhydrazine hydrochloride is a powerful hemolytic agent and has an accumulative effect which continues for about ten days after the drug has been discontinued and therefore should be given cautiously, and smaller daily doses given over a longer period will be more satisfactory than larger doses over a shorter period of time.

Thrombosis is apt to occur when rapid blood destruction takes place and it is impossible to predict when such a rapid crisis of blood destruction may be impending, when giving fairly large doses of phenylhydrazine, even though the red cell count and hemoglobin are still quite high when the drug is discontinued. The maintenance dose necessary to maintain a normal blood count varies from time to time.

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—JKMS—

Symptoms, with or without physical findings, need treatment. Physical findings without symptoms need to be watched.—S. E. Thompson.

## PRESIDENT'S PAGE

To the Members of the Kansas Medical Society:

The week beginning March 30 should be marked on your calendar. The Kansas Medical Society, through its Cancer Committee, is offering a Cancer Control Program. There will be a scientific session each afternoon and an open meeting for the laity each evening beginning at Chanute on March 30, at Wichita on March 31, at Dodge City on April 1, at Hays on April 2, at Salina on April 3, and at Topeka on April 4. The afternoon scientific sessions will be open to our membership and to the members of the dental profession. The public meeting in the evening will include lay educational information concerning the prevention, early recognition and cure of cancer.

We are particularly fortunate in securing as speakers the following who will address both the scientific and evening sessions: Dr. Charles F. Geschickter of Baltimore, Maryland, Head of the Department of Surgical Pathology at Johns Hopkins University; Dr. Burton T. Simpson of Buffalo, New York, Director of the New York Institute for the Study of Malignant Disease; Dr. Frank L. Rector of Evanston, Illinois, Representative of the American Society for the Control of Cancer. These meetings have been purposely arranged in different sections of the state so that all members might attend. We trust that each of you will make a special effort to be there and we wish you to extend an invitation to the dentists of your community. If each member would inform interested lay groups in his community, many would attend these evening meetings. We should stress this feature because of the importance of the subject.

Your President desires to meet the Officers of the component county societies adjacent to each sectional meeting at that meeting. You will be apprised by bulletin of the hour and place of meeting before that date. We trust it will be possible for all to attend as we wish to outline briefly the plans for the coming year. Dr. F. L. Loveland, Chairman of the Medical Economics Committee, will be present at each of these meetings and will outline to you the working plan of his committee as it dovetails into each society.

We again want to urge each society to bring its membership roll to the top, having dues in by March 20, thus giving us the representation our numbers warrant. Also bear in mind the Kansas Medical Auxiliary and help swell their numbers. If you have not a local Auxiliary, send in a dollar with your wife's name for a membership-at-large.

H. L. Snyder, M.D.



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## EDITORIAL

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### HOSPITAL COUNCILS

The American Hospital Association, through its Council on Community Relations and Administrative Practice, has been studying the subject of hospital councils for several years. While hospital councils have been established in many cities there is a lack of uniformity in their organizations and a wide variance in their functions. There is one general idea to be found among them, that of cooperation in meeting the problems of hospital administration. This is only one advantage of the many which such an organization should offer. The importance of hospitals in a community in their relation to the public, to the medical profession and to all of the health activities, suggests the idea of a Hospital Council as a Community Health Council. This should appeal to physicians, hospital authorities and all others concerned with the administration of health agencies, and offers a working basis for group thinking and action directed under medical leadership.

The criticism has been made by the Milbank Foundation that the medical profession is not using the scientific facilities which are available to a degree where they have any social value. The chief difficulty encountered in applying the utmost available in scientific technique to medical practice is the lack of organization of these facilities. In every medical center there is a County Medical Society from which the leadership must come. There is one or more hospitals, with directors, staff, laboratory and all kinds of diagnostic and therapeutic equipment. There is usually one or more free medical clinics and some form of medical social service. The city and county authorities whose responsibilities include health service should necessarily be members of the council. Such an organization should be built around the hospital or group of hospitals as the community health center. Representation on a governing board

of the council should be designed so that the balance of responsibility and power rests with the medical profession.

The medical profession can meet the needs of a more amplified medical service. This may be done through organization of our existing facilities, bringing into the council the social, financial, and administrative agencies concerned with matters of health, and giving to this council the broad social vision and practical minded leadership of which organized medicine is capable.

### GERIATRICS AS A SPECIALTY

The literature dealing with the subject of geriatrics as a specialty is far from extensive in our country. Notwithstanding, there may be found occasional articles in the journals on certain diseases occurring in the aged and which may be justly attributed to the effects of senile metamorphoses in the vital organs and tissues of the body.

Upon reflection it is manifestly evident that there is a vast difference in the therapeutics of a disease process in a subject whose tissues are worn and sclerosed and in another still in the beginning of life whose powers of recuperation are undepleted. Many diseases affect the young and the old irrespectively, but all diseases are modified by age conditions, as is also the therapy.

The great work of Nascher and that of Alfred Loomis are the only books of American origin treating the subject of geriatrics exclusively. The book of Loomis was written as a supplement to that of Charcot, both published in a single volume. The part written by Charcot deals extensively with the history and development of the science of geriatrics. He has gathered from the works of bygone masters of all the ages such knowledge on his subject as has been recorded. Charcot himself displayed marvelous powers of observation in the field of geriatrics. Notwithstanding all this, as

a matter of fact the sum of the literature of the world devoted exclusively to diseases of the aged is not at all abundant. Outside of the celestial empire the aged receive but little consideration and in our own country barring family relationships, the aged citizenry is regarded as an incubus. This situation may be attributed to the all consuming, go-getter, dollar-chasing proclivities of the ambitious youth of our highly commercialized age.

With this somewhat unnatural condition prevailing and in the ascendancy, it is easy to understand how the aged may be overlooked and forgotten in the onward rush for wealth and position in the world.

By way of contrast, pediatrics, which was in former times also almost entirely neglected, is of late receiving due consideration at the hands of able specialists in that field. Pediatrics has developed into one of the most useful specialties in the domain of modern medicine. The result is that the physician who consecrates his energies to the study and treatment of the maladies of children is probably the most useful member of our profession. The beneficent services of the skilled pediatrician contributes not alone to the saving of these young lives but enables them to attain the stage of adult life with stronger bodies and better minds, and thus safeguards against disease and early decay. The health of a people is the nation's best asset.

If the beginning of life deserves to be surrounded with such extraordinary care and concern for the health and well-being of the individual, so likewise the period of decline should merit at the hands of the profession the special attention necessary to prolong life and add to the happiness of the aged. It is quite reasonable to hope that a correct understanding of the resulting metamorphoses of the vital tissues resulting from age may enable the wise specialist in geriatrics to prevent or at least retard such lethal changes, thereby adding to the comfort of the individual and postponing the day of final dissolution. I realize that this

language savors somewhat of a too implicit trust in the possibilities of therapeutics, but I have always maintained that the physician who is a therapeutic nihilist has no more reason for existence than the minister of the gospel who has no faith in theology.

The domain of medical knowledge has become so vast that it is scarcely feasible for the single mind to comprehend the whole. Hence specialization is the order of the times. This is nothing new, for, as we are informed by Herodotus who lived 480 B.C., the Egyptians had a physician for each disease, by which was meant diseases limited to the various parts of the organism. I feel that the time is now at hand when the maladies of old age should be regarded as a specialty, and that geriatrics should assume a place alongside of pediatrics.

As the diseases of old age are obviously, as a rule, the result of retrograde changes in the vital tissues of the body leading to an inhibition of function, the therapy resolves itself into a system of scientific prophylaxis. It might appear to some on first thought that the field of geriatrics is too limited for specialization. That the opportunity for full employment and mental development and pecuniary reward is too meager to gratify the hopes and ambitions of an energetic educated individual.

The genuine physician, possessed of the Hypocratic trend of mind, naturally desires to utilize his talents to the fullest extent. There is no mind however great or well developed that cannot find full employment in the study and practice of the science of geriatrics as a life vocation. There is no field in all the broad domain of medicine where the loftiest talents of the physician may be exercised with greater benefit to society than practical geriatrics.

Scientific prophylaxis is the foundation of the science of geriatrics. The physician who essays to treat the pathologic processes of advancing age should be able to recognize the initial changes taking place, for it is in the beginning that therapeutics may be of real value. After a malady is once established the patho-



logical deviation of the tissues from the normal may soon reach the stage where hope for restitution is no longer reasonable, in which case the therapy can only be palliative. Even at this, the geriatrist may be able to render truly beneficent service to his patient. When a physician essays the management of a case the course of his conduct should naturally be determined by the underlying pathology. If a cure is feasible then his efforts should be directed toward that end. If a definite cure is beyond hope then he should seek to ameliorate suffering and promote comfort. This may be exemplified in the treatment of cardiac edema with dyspnea. In this day of periodic health inventory it should be possible to discover the initial departure from normal in very many of our aging patients. Naturally the observing family physician should be the first to become aware of the earliest manifestations of encroaching years. There are conditions in these early cases which are not susceptible to elucidation on the basis of laboratory procedures. The cultivated powers of observation and long-time familiarity with the individual may enable one to detect a condition when the laboratory is still silent. Notwithstanding, the specialist in geriatrics should possess a scientific turn of mind, should have a profound and practical knowledge of laboratory procedures and, an extensive knowledge of pathology, for most of the maladies peculiar to the aged are but the expression of pathologic metamorphoses that affect the vital tissues of the body.

Any system of therapy to be successful must be founded upon a rational and correct understanding of the effects of such tissue alterations upon the well-being of the individual. This is the time to shorten the hours of toil and reform the habits at the table and to be careful of the raiment. One may ask, what is there for the geriatrist to do, and what is there to be accomplished in this new field of practice? What may he reasonably hope for in the matter of pecuniary reward for his labor? The answer is, the field is boundless, the possibilities are beyond limit, and the chances for pecuniary

success are as good as the best. Let it be remembered that almost every man or woman who lives beyond middle life may become a patient of the geriatrist the same as every old person must become a patient of the ophthalmologist. As to the question of material reward, it may be said the savings are usually among the old people, and so far as opportunities for work and the exercise of medical genius are concerned the field is limitless. The maladies from which the aged suffer are numerous and generally characterized by the most interesting pathologic changes in the tissues. Arterio-sclerosis with cardio-renal involvement alone can supply matter for thought and work for the most ambitious mind. The athero-sclerotic changes affecting the circulatory system, which lead to so many conditions which interfere so seriously with man's health and comfort certainly merits a better understanding on the part of a learned profession gaining its sustenance from the treatment of human ills. This end may be hoped for when some part of our profession decide to devote the same energy toward the solution of the diseases of the aging that children receive at the hands of the pediatrician. We cannot in the nature of the case expect definite and lasting cures in geriatrics as in pediatrics because individual human life must come to an end. What we may reasonably hope for is the obviation of certain diseases, the alleviation of others, and the prolongation of life with increased economic usefulness. The human being is the only member of the animal kingdom whose life is so often brought to a sudden and unexpected end. We are familiar enough with the terminal pathology resulting in the tragic forms of exitus from life, but what we lack is an adequate understanding of the exciting causes that serve to initiate these retrograde changes that lead to complete disablement of the mechanism indispensable to life.

From the beginning of history it appears that man has been endowed with a weakness of the cardio-vascular system. Instances of sudden death were known among the ancients. Plato

died at his writing table with his writing stylus in hand at the age of eighty-two.

To digress a bit from our subject, the ancients had the same problem with intoxicating drink that we have today and they studied its influence on the health of man.

Formerly and not so long ago, the general surgeon was master of the entire field of operative therapeutics. Then, first the gynecologist, then the orthopedist came to claim a part of his domain, and both of these continued to make still further encroachments on the surgeon's work. The point is, has this division and subdivision of the fields of medicine resulted in a benefit to the science of surgery, and in turn to the world upon which surgery is practiced?

When we contemplate the vast amount of most valuable information contributed to the storehouse of surgical knowledge by these specialists, we are forced to admit that specialization and consequent segregation has been a great benefit to the world. Through the labors of the master gynecologists the treatment of vesico-vaginal fistula, procidentia uteri, and other conditions including malignancy, have been made entirely satisfactory. The orthopedic specialist has been of inestimable benefit to the cripples here-to-fore existing as hopeless charges. The neural surgeon and the plastic surgeon have each added greatly to the science and art of operative therapeutics. If these beneficent results may be obtained by division and subdivision of the field of surgery, it is but reasonable to hope that similar benefits might be obtained from further segregation of the field of internal medicine, which is admittedly too vast for a single mind to fully comprehend. Were geriatrics elevated to the dignity of a specialty and its devotees efficiently organized into societies, there would soon be able journals to serve as intermediaries for the exchange of knowledge, and both the profession and the public would be greatly benefitted, particularly the aged contingency.

Select societies to promote the interchange

of thought and journals to preserve the transactions of the meetings are indispensable to the growth of any specialty.

I believe that sufficient has already been said to fully justify the creation of a distinct specialty wholly consecrated to the study and treatment of our aged population. This, evidently, is not a field for the beginner, but should be reserved for the staid and mature physician whose faculties of observation and judgment have been thoroughly seasoned by years of practical experience. To be of value one must be able to anticipate senescent changes and institute prophylactic measures in order to forestall an irremediable condition. A profound knowledge of all the present day laboratory methods must be combined with the penetrating powers of intellect possessed by our forefathers to make up the ideal physician. Though my professional life has been devoted to surgery I have all along felt a keen interest in the diseases of the aged. Now I feel that the time is at hand when there should be a service erected for the study and treatment of the maladies peculiar to the aged and which constitutes an altogether separate and unexplored field of medical science. This is practically an unexplored field so far as medical specialization is to be taken into account.

In order to be able to render the most efficient service the geriatrist should seek to establish relations with the patient at or before the onset of decline. The shift from a state of full health to a condition of decay which, though gradual and slow, is quite apparent to the practiced observer. The voluntary withdrawal from accustomed activities, the shortening of the stride, the stooping shoulders, the beginning atrophy of the gluteal muscles indicating the reversion of the form of the body to that of the froglike form of infancy, the blurring of memory for new faces and recent events, are the harbingers of the departing noontide of life.

With these problems, as with most difficult things in life, there are always some to ask



what is there to be done. The answer may well be that these are matters which should concern the medical profession. Medicine though advancing with wonderous strides, is yet only in the beginning. The marvels of the past fifty years may be augmented a thousand fold in the fifty years to come. The science of geriatrics is the science of prophylaxis or Alexian medicine as applied to the aged. The most striking advances in the science of medicine in the recent past have been in the field of prophylaxis as instanced by the elimination of many infectious and contagious diseases. Let the same energy be expended in an effort to ameliorate the afflictions of the aged and like results may be expected. I am aware that such a declaration sounds dreamy, but I venture the assertion that no medical specialty offers more unlimited possibilities for success in all the varied phases than the yet unexplored field of geriatrics.

D. W. Bashman, M.D.,  
Wichita, Kansas.

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## MEDICAL SCHOOL CLINIC

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### COCCIDIOIDAL GRANULOMA

THOMAS G. DUCKETT, M.D.

and

ROBERT C. FREDEEN, M.D.\*

Kansas City, Kansas

The following case report is that of coccidioid granuloma occurring with and probably precipitating hydrocephalus.

B.T.H. No. 57782, a white American boy, five years of age, entered the University of Kansas Hospital October 28, 1935, with a history of convulsions and paralysis of the lower extremities, dating back about one year according to the father. At the onset the convulsions consisted of tonic seizures of thirty

minutes duration, followed by a period of irritability and semiconsciousness, which persisted for approximately two hours. The attacks recurred irregularly, varying from one to fourteen days. They were always similar in nature, and were never associated with involuntary urination, defecation, vomiting, nor biting of the tongue. The patient has always had defective muscular coordination, but for six weeks prior to admission had been unable to stand or walk without assistance. The present illness has been accompanied with mental deterioration.

The past history revealed a premature birth of seven months' gestation. The boy was born July 5, 1930, at Carlsbad, New Mexico, where he resided for three months. Soon following birth, it was noted that the head was abnormally enlarged. At three months of age a cutaneous lesion on the ring finger of the left hand was noted and diagnosed as "mycosis." To the best of the father's knowledge there were no similar cases in the vicinity. At four months of age he lived in Texas for one month, and since then has resided in Kansas. At seven and one-half months of age, his left forearm was amputated. His attending surgeon predicted a relatively short life, because of extension of the mycosis to the brain. The interval between the primary infection and death from extension was about five years. Family history was negative.

Physical examination revealed a fairly well developed and nourished child. On inspection, an external hydrocephalus was evident. The head circumference was 21.75 inches. The normal circumference for a five-year old child is 20.5—20.8 inches.<sup>1</sup> The child could not talk, but made guttural sounds. The ophthalmoscopic examination of the eyes showed bilateral papilloedema. The tonsils were hypertrophied and the anterior cervical lymph nodes were palpable. The left forearm had been amputated about three inches below the elbow. The patient could move the extremities freely, but was unable to stand or walk. The lower extremities were spastic, with left patellar and ankle clonus, negative Babinski, and hyperactive knee jerks. The reflexes of the upper extremities were exaggerated.

Laboratory findings. Urine was negative. Red blood cells were 5,300,000, with seventy-four per cent (11.5 grams) hemoglobin. The

\*From the Departments of Pediatrics and Pathology, School of Medicine, University of Kansas.

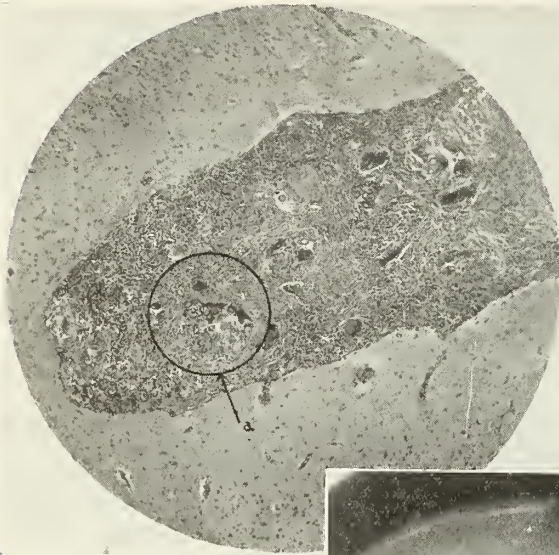


Figure 2.—Coccidioidal granuloma in piaarachnoid of brain.

total leukocyte count was 10,100, with seventy-one per cent polymorphonuclears, of which sixty-two per cent were filamented; seven per cent eosinophiles; nineteen per cent lymphocytes; and three per cent metamyelocytes. The tuberculin intradermal test was negative. The Wassermann and Kahn were negative. The x-ray examination of the skull showed a marked disproportion between the skull and the face bones, the sagittal and coronal sutures widely separated, moderate convolutional atrophy, and no evidence of skull erosion. The ventriculograms in the various projections demonstrated enormously dilated lateral and third ventricles. There was no abnormal displacement of the ventricular system. The changes were suggestive of hydrocephalus. During hospitalization the temperature curve was that of a low grade fever. On the eighteenth hospital day the patient was transferred to the neurosurgical service, and an opening was made into the right ventricle, the choroid plexus appeared cystic and was cauterized, as was the

glomus of the opposite side. About six hours later the patient became cyanotic, and the temperature elevated. The lungs were filled with numerous moist rales; the patient was given oxygen therapy, to no avail, and expired about seven hours after the operation.

The necropsy was performed four hours following death. The body was not embalmed. On general inspection the essential features were that the head was greatly enlarged in proportion to the remainder of the body and measured twenty-one and three-quarters inches in circumference. There was a sutured crescent-shaped incision in the right temporo-occipital region. The left forearm was amputated three inches below the elbow.

The serous cavities presented no unusual findings. In the lower lobe of the right lung near the hilum there was a circumscribed ovoid area of unusually firm induration. On cross section this mass was 1.2 cms. and showed a central zone of caseation with scattered deposits of calcium. The margins of this mass were encapsuled, and the seat of a fibrous induration. The surrounding parenchyma of the lung presented multiple foci of consolidation characteristic of bronchopneumonia.

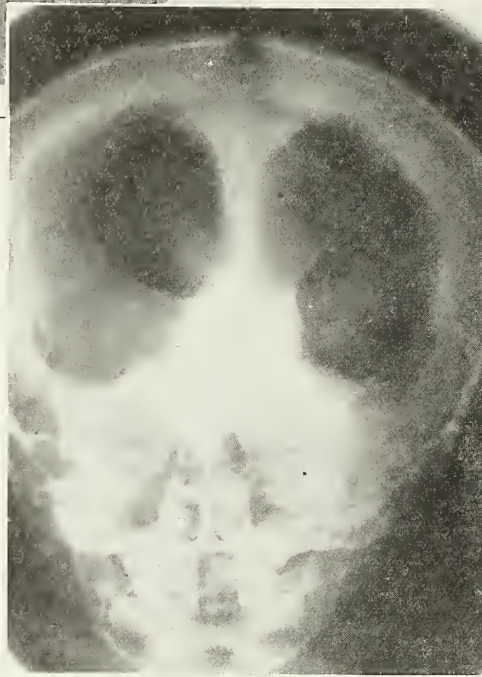


Figure 1.—Internal Hydrocephalus, Greatly dilated lateral ventricles (following air injection into the ventricle) Spreading of sagittal suture.

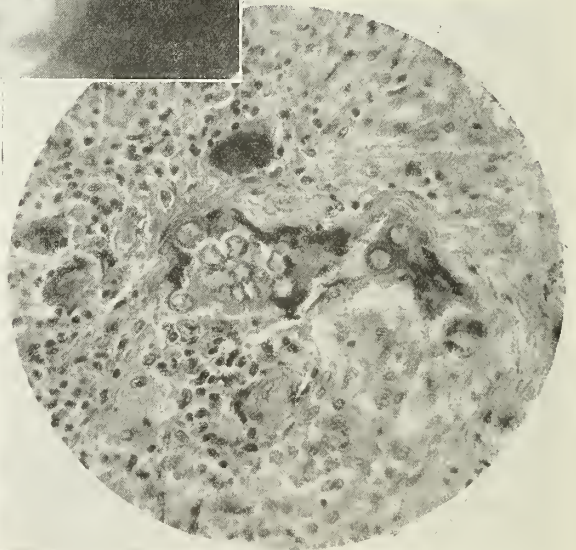


Figure 3.—Higher Magnification (400 times) of Area A in Figure 2. Coccidia in Center of Field.



The adrenal glands were unusually firm in consistency, and their combined weight was eight grams. The cut surface had a homogenous opaque white appearance and showed focal necrosis in the medulla. The line of demarcation between the cortex and medulla was obscure.

The interosseous sutures of the skull were separated, and the calvarium was abnormally thin. There was a crescent-shaped bone flap in the right temporo-occipital region with a small amount of under-lying hemorrhage. The pia-arachnoid was thickened and covered by a gray granular type of exudate, which was most prominent over the brain stem. The ventricular system was dilated, and the spinal fluid was excessive in amount. The choroid plexus was cauterized on the right side. The ependyma of the lateral ventricles appeared roughened, and the entire surface of the lateral ventricles had an unusually granular appearance.

#### HISTOLOGIC EXAMINATION

The microscopic study was made from tissues fixed in formalin and stained by the hematoxylin-eosin method. The lesions of the lungs, adrenals and brain are worth special note.

**Lung:** Preparations from the caseous nodule in the right lung revealed a central zone of necrotic detritus and caseous material with beginning calcification. This zone was surrounded by dense masses of hyaline fibrous tissue or rounded doubly-refractile bodies. The parasitic bodies were frequently included in the multinucleated giant cells. Peripheral to the central zone daughter lesions were present in the form of tubercles with endotheloid and giant cells prominently displayed. The parenchyma of the lung contained dilated bronchi filled with a purulent exudate, while the adjacent alveoli contained a fibrino-purulent exudate giving the picture of bronchopneumonia.

**Adrenal glands:** The lesions in the adrenal glands closely resembled those found in the lung, and the cortical and medullary portion was largely replaced by the granulomatous lesion. The predominating picture was that of central caseation-necrosis with a peripheral granulomatous reaction closely resembling that of tuberculosis. Numerous oval-shaped doubly-refractile bodies in all stages of development were recognized throughout the section. Multinucleated giant cells were numerous and frequently contained the yeast-like organisms.

Occasional polymorphonuclear and mononuclear leucocytes were observed.

**Brain:** The meninges had an extensive granulomatous involvement with lesions similar to tubercles. The granulomatous masses were circumscribed and showed central caseation and giant cells surrounded by epitheloid cells. Parasites were commonly noted and were characterized by oval or rounded bodies showing a doubly-refractile membrane. Giant cells were also prominent. The lesions were strikingly limited to the meninges following along the course of the cerebral vessels and in one field there was a thrombus in the cerebral artery. The cortex was involved in only one or two areas. The choroid plexus was involved but this was not particularly marked. A few granulomatous foci were recognized along the ependymal epithelium.

Attempts were made to culture the organisms from the lungs in the hope of getting bacteriological evidence of the coccidioid infection. These were unsuccessful.

#### COMMENTS

Coccidioid granuloma is a disease process which is granulomatous in character. It was first described by Wernicke<sup>2</sup> in 1892 in Buenos Aires; and in 1894, the first case was reported in North America, by Rixford<sup>3</sup> of San Francisco. The California State Board of Health issued a special bulletin in 1931 recording a total of 286 cases of coccidioid granuloma reported over the entire world prior to June of that year. Of these, 254 cases eighty-nine per cent originated in the state of California. Since this time at least twenty-six sporadic cases have been reported; and to our knowledge only one case has been previously described in Kansas. Stiles was the first to name the causative factor and because of its close resemblance to *Coccidia*, he called it *Coccidioides immitis*. However, Ophulus,<sup>4</sup> in 1905, proved that it had a double cycle of growth, on artificial media growing as a mold with mycelia and aerial hyphae; while in the body it takes the coccidial form, existing as a sphere with a double contoured capsule, and reproducing by means of endosporulation. The disease has been called pseudo-tuberculosis, because of its early close resemblance to tuberculosis. The clinical manifestations are quite variable, lesions having been described in all the tissues and organs of the body. Greaves<sup>5</sup> in April, 1934,

was the first to demonstrate gastro-intestinal involvement. While Childrey and Gray<sup>6</sup> in October, 1932, first described a case primary in the nasopharynx. Most cases reported have a primary cutaneous involvement and terminate with a widespread generalized infection. The scarcity of reported cases in infancy makes it impossible to say whether the duration of the disease beginning in infancy is any different from that in adults, with whom it varies greatly. The convulsions during the last year of life are probably due to the meningeal involvement.

#### SUMMARY

There is reported here a case of coccidioidal granuloma occurring with and probably precipitating hydrocephalus. The infection was recognized at three months of age, followed by amputation at seven and one-half months of age. Autopsy findings five years later revealed involvement of the meninges, lungs, and adrenal glands, while the remainder of the viscera are entirely free from the process.

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## MEDICAL LITERATURE

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Edited by Will C. Menninger, M.D.

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### VASCULAR DISEASE IN THE OBESE DIABETIC

A study of arteriosclerosis as a cause of diabetes was made by Beck and his associates. Thirty diabetic, seventeen borderline, and forty-nine normal cases were tested for hypertension and arteriosclerosis. Only obese subjects were used. Hypertension was found to be present in fifty per cent of the diabetic group, forty-three per cent of the borderline group, and thirty-one per cent of those with normal glucose tolerance. Retinal arteriosclerosis of

all grades was found in 36.6 per cent of the diabetic group, forty-one per cent of the borderline group, and 32.6 per cent of the normal group. Less than half of the obese subjects, diabetic and non-diabetic, had no evidence of vascular disease. There appeared to be no striking correlation between glucose tolerance, hypertension, or retinal arteriosclerosis. Calcification of the arteries of the lower extremities which is so common, particularly in the older, uncontrolled diabetic, is essentially absent in early diabetics and in obese people, some of whom are potential diabetics. The proposal that diabetics in older persons is commonly caused by sclerosis of the pancreatic vessels is discussed. Although direct proof that sclerosis of the pancreatic vessels causes diabetes cannot be determined by clinical methods nor can it be held responsible as a primary cause of diabetes when found at necropsy, it seems improbable that such sclerosis can be regarded as a general cause for diabetes in older people.

Beck, Edgar C.: Fowler, James G.; Koenig, E. C.; and Bowen, Byron D.: *Vascular Disease in the Obese Diabetic, and in Non-Diabetics; A Discussion of Arteriosclerosis as a Cause of Diabetes*, *Annals of Internal Medicine* 9:662-670, December 1935.

### TREATMENT OF PLANTAR WARTS

Pritcher reports a simple and painless method for removing plantar warts. The site of the wart is washed with a mixture of alcohol and ether. A piece of carbon dioxide snow, shaped to fit the size of the wart, is applied to the lesion with moderate pressure until the entire area of the wart is blanched. Monopolar current is then applied and the surface of the wart is desiccated until the patient complains of pain. Carbon dioxide snow is reapplied with slight pressure, and the desiccating continued. This is repeated until the wart begins to bleed slightly. The edge of the wart is then gently lifted up with the point of a scalpel and the entire wart is easily and painlessly removed, leaving a slightly oozing base. The bleeding points are desiccated with the same current, and a plain gauze pressure dressing is applied. The dressings are changed every other day, and usually the wound is healed at the end of the week. All patients so treated have been able to remain on their feet and attend to their work, with no experience of after-pain.

Pritcher, J. Leon: *Plantar Warts, A Simple Method of Treatment*, *Archives of Dermatology and Syphilology* 32:923, December 1935.



### INTRANASAL APPLICATION OF INSULIN

A report of the application of insulin intranasally is presented by Major. Preliminary experiments indicated that the instillation or insufflation of insulin in the nose produced either frankly negative or doubtful results. With this in mind, he studied various solutions which would increase the absorption through the mucous membrane, and chose ethylene glycol as a medium. Solutions containing equal parts of ethylene glycol and insulin and solutions of powdered insulin in ethylene glycol were used. The solutions employed for instillation contained 500 units per c.c.

Results show that insulin in ethylene glycol when either dropped or sprayed into the nasal mucous membrane produces an unquestioned and marked fall in blood sugar in normal rabbits, normal dogs, and in diabetic patients. The dosage for this method is considerably greater than that necessary in subcutaneous injection.

Major, Ralph H.: *The Intranasal Application of Insulin*. *Journal of Laboratory and Clinical Medicine* 21:278-280, December 1935.

### CHRONIC HYPERTENSION OF NERVOUS ORIGIN

Evidence has definitely proved that blood-pressure is self-regulated by a reflex apparatus governed by impulses taking origin in special pressure receptors located in the walls of the aorta and in the two swellings at the beginning of each of the two internal carotid arteries, known as the carotid sinuses. Faradizing the central end of aortic or carotid sinus nerves causes reflex heart retardation and fall of blood pressure. The effects exerted by the natural stimuli, however, has been a subject for study of Izquierdo. Results show that (1) blood pressure changes upward as well as downward in the aorta and sinus carotidus produce, through reflexes started in the aforesaid receptors, opposite changes in the general blood pressure; (2) that reflexes thus evoked are mediated, mainly through changes in the vagal cardioinhibitory tonus and the general vasoconstrictor tonus, and secondarily upon the general vasomotor tonus and the cardioacceleratory tonus. By means of these cardiac and vascular reflexes, both the aortic and carotid sinus nerves maintain cardiac activity and blood pressure within limits of great constancy and under normal conditions, their antagonizing

effects may be great enough to counterbalance the general rise of blood pressure evoked by splanchnic stimulation. When the splanchnic nerve is stimulated after the aortic nerves have been severed and the carotid sinus nerves have been clamped, the blood pressure curve is considerably higher than when both sets of nerves are intact. Experiments show that animals cannot live when these four pressor-sensitive nerves are removed, but that if the nerves are removed from one side only at first, and then those of the other, the animals survive. It is not likely, however, that this is the cause of hypertension in man, but it is more probably that in man the morbid lesion must be located in the receptors themselves. The existence of a primary and permanent hypertension, due to functional deficiency of the nervous regulatory apparatus, seems to be on its way toward recognition. Observations have also been reported which show that sclerosis of the arterial walls at the points where the receptors lie, may lead to elimination of the self-regulating mechanism. This would either create hypertension, or if it were already present, convert it into an irreparable process.

Izquierdo, J. J.: *On Chronic Hypertension of Nervous Origin*. *Journal of Laboratory and Clinical Medicine* 21:235-243, December 1935.

### CHRONIC TONSILLITIS IN THE ADULT

Hunnicutt and his associates study twenty-five consecutive cases of chronic tonsillitis from a clinical, bacteriologic, and pathologic standpoint. It was found that from the clinical aspect a single or group of changes was not present in all the tonsils and that the clinical findings did not bear a constant relationship to the clinical history. Bacteriologically, one type of flora was not observed constantly in the tonsils nor was any characteristic type of flora found to show a relationship to the gross appearance of the tonsil or to the clinical signs and symptoms. Pathologically, changes in the tonsils, though variable, were strikingly similar to those in a group of selected controls. The histologic changes, with the rare exception of the specific lesion of rheumatic fever, did not bear a definite relationship to the bacterial flora or to the clinical signs and symptoms.

Hunnicutt, T. N. Jr.; Sternstein, H. J.; & MacMahon, H. E.: *Chronic Tonsillitis in the Adult: A Clinical, Bacteriologic and Pathologic Study*. *Archives of Otolaryngology* 22:744-752, December 1935.

## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

### STANDARDIZATION OF THE ACTIVITIES OF THE COMMITTEE ON MEDICAL ECONOMICS OF THE MID-WEST AND NORTH-WEST\*

F. L. LOVELAND, M.D.

Topeka, Kansas

Economic problems remain to torment us long after depressions wear themselves out. The past few years have been rather hopeless ones for many people. Poverty has been stalking the land and debt has assumed mountainous proportions. Despite the fact that tax burdens have reached unbearable limits, thousands of politicians disguised as economists, are trying to devise new schemes of taxation.

The Government is engaged in a gigantic social experiment wherein it assumes responsibility for millions of subsidized individuals. States, municipalities and all sub-divisions thereof have been eager recipients of governmental generosity, in fact, the paternal influence of our government has been felt by individuals in all walks of life during the past three years. Undoubtedly, the world's most expensive indulgence. It will be paid for by people who can least afford the experience.

A radical change has been noted in the social policy of insecure individuals. A desire to obtain something for nothing has been uppermost in the minds of many people. A willingness to barter personal liberty and freedom for a mess of pottage, once regarded as substantial evidence of moral decay, is pardonable today, if done in the name of an emergency measure.

The hope of our country lies in the ability of these individuals to rehabilitate themselves and not allow their temporary freedom from social responsibility to terminate in a permanent divorce from all sense of personal obligations. The alien population of our country on relief, who refuse to take out citizenship papers, will continue to accept gratuities so long as they are proffered, but such action is not to be expected from our own people who have known better days and for whom better times are in store. We are persuaded that economic problems of medical interest will

continue to be closely interwoven with the destinies of these people and their many heirs for years to come.

If such observations are substantially correct, there can be no greater indication for an immediate standardization of medico-economic activities.

It would seem that a declaration of intentions on the part of the several states is in order. In Kansas, our primary interest lies in familiarizing ourselves with our problems. At a time when governmental, industrial, agricultural and business policies are subject to change without notice, we believe an intensive study of our problems rather than a hasty solution of them is desirable. We realize that the diversified social structure of our state is such as to demand a knowledge of problems peculiar to sectional areas of the state. To know the conditions and circumstances under which we serve is to be the ambitious undertaking of The Kansas Medical Society during the coming year.

Breaking new ground in a neglected field of medicine is fraught with many dangers. Conservative action which stimulates normal development rather than radical action which provokes disaster is the procedure of choice.

Ethical and economic vantage-points have been established for us by the vanguard of American Medicine as represented by the officers, directors and bureau leaders of the American Medical Association. If, under the guidance of the Bureau of Medical Economics of the American Medical Association, we can undertake the task of studying new problems, making new surveys, standardizing our activities and formulating new plans for the future, in orderly fashion, we can move forward on the road to meet the challenge of today in medical economics.

It is impossible to measure the scope of medico-economic problems. They have benign and malignant potentialities. A benign appearing problem today may take on malignant characteristics tomorrow. The malignant provisions of the Social Security Act merit a common understanding of their possible effects in each state. Aid to dependent children, crippled children, the blind, maternal and child welfare, vocational rehabilitation and public health provisions are of medical interest and so long as the Act is effective the men of medicine rather than lay groups should supervise its operation.

\*Read at the North-West Regional Conference in Chicago on February 16.



In Kansas, the administrative officers of the Act have expressed their desire to work with the consent and co-operation of county medical societies. The actual work will be performed by the members of county medical societies and paid for from funds available under the provisions of the Act. This procedure does not harmonize with our ideas relating to the further socialization of medicine, however, we must lay hold of one horn of the dilemma, either do the work ourselves, within our own communities, or submit to governmental agencies both lay and professional doing it for us.

Indigent sick problems are legion. Insofar as we are able to determine there are as many indigent sick plans in operation as there are indigent sick individuals needing medical attention. Undoubtedly, most of us are traveling blind roads in dealing with this major problem. Indigent individuals when sick have an inherent right to seek the services of the physician of their choice. In most communities, in times of depression, such action creates an unbearable medico-economic burden. The laws of the several states delegate the care of the indigent sick to the counties within the state. Few, if any counties are adequately equipped to care for the indigent sick at any time. These people gravitate to the physician of their choice despite the fact that the law provides for a health officer to care for them.

In Kansas, necessity has driven us into the adoption of an indigent plan which we realize is not ideal. Public funds which have been spent so lavishly for all things both great and small have not been available in Kansas for indigent sick care. With one-fourth of our population on relief the enormity of the burden is apparent. Our county medical societies by agreement with boards of county commissioners were designated as an official agency within the county to adequately provide for the indigent sick. The patient-physician relationship and the principle of free choice of physician have been preserved. The boards of county commissioners compensate county medical societies on the basis of one dollar per month per direct relief family.

The burden of caring for work-relief groups has been somewhat relieved by the adoption of a similar plan for all subsidized individuals. In this agreement, however, boards of county commissioners are not involved, the agreement being between the individual worker and the

members of a county medical society who choose to participate in the plan. Compensation is afforded on the basis of one dollar per month per work relief family. We believe the advantages of the plan substantially out-weigh the disadvantages, however, we are in search of a better way and we court your counsel and advice.

Non-medical agencies, with or without governmental encouragement, have been advocating radical changes in the organization of medical service in this country. Radicalism plays no part in the normal development of affairs or institutions yet they would have us believe that the salvation of our country depends upon the socialization of medicine. To what extent public opinion has been influenced by the widespread dissemination of socialistic propaganda relating to the inadequacies of the practice of medicine as it now exists, we do not know. Other non-medical agencies are springing into existence for the purpose of commercializing medical services. To what extent the public is being duped by these highly advertised health schemes, we do not know. We believe, however, that if every state medical society possessed reliable information relative to the conditions and circumstances under which its members serve, the truth of the matter would be apparent and the contentions of our critics would be refuted.

The query arises as to what activities will lend themselves to standardization. There seems to be a growing temptation in the busy hurly-burly to regain economic security to subjugate the patient-physician relationship in favor of radical changes, some of which, if carried to a logical conclusion will transform the practice of medicine into a mechanical service operating on a commercial basis. If the development of a bureaucracy within our ranks is to be a controversial issue it would seem a wise course of procedure to direct all of our activities toward the standardization of the patient-physician relationship. Our problems are clearly set forth by the uncertainties of life involving the patient and his physician. These two parties should occupy the foreground in medico-economic activities. There was a time when physicians paused sufficiently long to evaluate the feelings of men and women; when their philosophy of life was a factor in the diagnosis of their economic ills; when their varied abilities to grasp opportunities and face uncertainties of life was of great prognostic

value in the determination of future conduct. These human equations are of significance today. Traits of human character which can make or break any economic problem must be properly evaluated by the men of medicine and moulded into useful instruments of service.

It may be said that investigative bureau's designed to carry on an exhaustive survey of sick men, women and children will in no wise interfere with the patient-physician relationship but we submit this issue to be a matter of opinion. What is to be the prevailing opinion of the men of medicine regarding this vitally important problem? Is it possible for the men of medicine to so standardize themselves and their economic activities as to enable them to deal with every phase of the patient-physician relationship without the intervention of lay third parties? Our sins of procrastination are responsible for many of our problems. If we could feel that a bureau, any kind of a bureau, could wash such sins away we would immediately favor the development of a bureaucracy even in Kansas.

In Kansas, there is a re-kindling of the fires on all the hills. Our county medical societies and the individual members thereof have awakened to the necessity of economic advancement; they are assuming a new medical leadership within their communities.

Our state Committee on Medical Economics has been enlarged to meet the demands of a state-wide survey. Eleven members selected from all sectional areas of the state are serving on this committee. Each member of this committee will assume the chairmanship of a sub-committee composed of five members selected from county medical societies residing within the district of the chairman. In this manner, each of our county medical societies will be directly represented in the furtherance of our medico-economic program. Each of the sub-committees will be assigned studies of major and minor economic importance and it will be their duty to specialize, so to speak, in the subject matter of their assignments. As soon as they are reasonably assured of the reliability of their findings they will report same to the state committee for approval before the final submission to the Council and House of Delegates. Likewise, in this manner, many problems of economic interest can be studied simultaneously. Each of the sub-committees will be assigned the further duty of supervising the survey in their sectional area of the state. The

entire membership of county medical societies will co-operate in this work. A questionnaire booklet is to be designed by the state committee setting forth the information desired. These booklets will be presented to every member of The Kansas Medical Society for completion. County medical societies will be held responsible for the completion of such reports in every instance wherein individual members are incapacitated or otherwise unable to do the work. Within the course of a years time we hope to have a working knowledge of our problems.

As elsewhere, the low wage and low salaried groups are knocking at our doors demanding solutions for their medical problems. We hope our survey will reveal the exact status of these people so that adequate provision may be made for them without working undue hardships upon them.

We expect to make mistakes. They will be sins of commission rather than omission, we hope.

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## NEWS NOTES

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### DUES

*Have you paid your 1936 dues?*

*If not, your secretary will appreciate your prompt cooperation in enabling him to complete his annual report.*

*The American Medical Association meeting in Kansas City, Missouri, and the Society's general program will make your 1936 membership the best investment you ever made.*

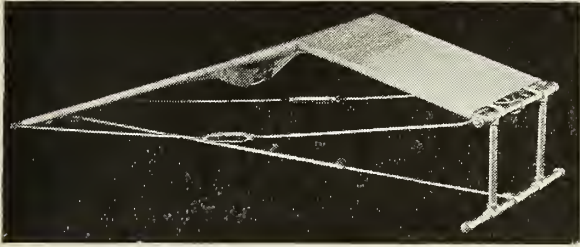
### PUBLIC INFORMATION

The Shawnee County Medical Society has recently inaugurated an extensive public information program. Its Public Relations Committee is now preparing a pamphlet which will include subjects available for programs of lay groups and which will be distributed to 700 organizations in Shawnee County. Talk outlines will also be prepared for the assistance of members in standardizing information presented. Speakers will be selected by the committee from a list of society members who volunteer to give talks except in instances where a particular speaker is requested by a lay group. The first phase of the program is to be a Cancer Week commencing March 30 in conjunction with the cancer program by the Society's Committee on Control of Cancer.



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## BLUE vs. GREEN SMOKE

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In the same light should be viewed claims of differences in manufacture. Philip Morris are made different—but only Philip Morris have been scientifically proved, because of that difference, to be less irritating than other cigarettes.\*

*Proc. Soc. Exp. Biol. and Med.*, 1934, 32, 241-245★  
*Laryngoscope* 1935 XLV, 149-154★  
*N. Y. State Jour. Med.*, 1935, 35—No. 11,590★



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*N. Y. State Jour. Med.* 1935, 35—  
No. 11,590; *Laryngoscope* 1935 XLV,  
149-154. *Proc. Soc. Exp. Biol. and*  
*Med.*, 1934, 32, 241-245. ☐

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## PLAN TO ATTEND

The

## CANCER CONTROL PROGRAM

Consisting of: Afternoon meetings for the profession on cancer topics of general interest to all physicians, and evening meetings for the public on lay educational subjects about prevention, early recognition, and cure of cancer to be held as follows:

March 30, Chanute:	2:00 P.M. scientific meeting 8:00 P.M. public meeting
March 31, Wichita:	2:00 P.M. scientific meeting 8:00 P.M. public meeting
April 1, Dodge City:	2:00 P.M. scientific meeting 8:00 P.M. public meeting
April 2, Hays:	2:00 P.M. scientific meeting 8:00 P.M. public meeting
April 3, Salina:	2:00 P.M. scientific meeting 8:00 P.M. public meeting
April 4, Topeka:	11:00 A.M. scientific meeting 8:00 P.M. public meeting

### Presenting as speakers:

DR. CHARLES F. GESCHICKTER of Baltimore, Maryland, Head of the Department of Surgical Pathology at Johns Hopkin's University.

DR. BURTON T. SIMPSON of Buffalo, New York, Director of the New York Institute for Study of Malignant Disease.

DR. FRANK L. RECTOR of Evanston, Illinois, Representative of the American Society for the Control of Cancer.

Open to: All members of the Society and their guests at the scientific meetings, and all laymen at the public meetings, without admission charge.

Sponsored by: The Committee on Control of Cancer of The Kansas Medical Society, the Central Kansas Medical Society, the Ford County Medical Society, the Neosho County Medical Society, the Saline County Medical Society, the Sedgwick County Medical Society, and the Shawnee County Medical Society.

The Society has appropriated a considerable sum for this project with the thought that the profession and public will receive substantial benefit. It hopes that all members will attend the scientific meeting most accessible to their location, and that they will urge their patients and acquaintances to attend one of the public meetings.

## COMMITTEE PROGRAM

As described in the last issue of the Journal, a conference of committee chairmen was held in Topeka on January 29 for the purpose of outlining the program each standing committee hopes to accomplish during the current year. The items approved are as follows:

### AUXILIARY COMMITTEE

1. A project wherein each member of the Auxiliary and other wives of physicians will be furnished all desired material on socialized medicine for study and use in presentations scheduled on this subject by clubs, civic organizations, etc.

2. Assistance of the Auxiliary in activities of the Committee on Control of Cancer, the Maternal and Child Welfare Committee, the Medical Economics Committee and the Public Health and Education Committee.

3. Use of the central office for assistance of the Auxiliary in preparation of bulletins, institution of its projects and establishment of a permanent archive for its records.

### COMMITTEE ON CONTROL OF CANCER

1. The Cancer Control Program to be presented during the week commencing March 30.

2. An assembly of material on the subject of cancer suitable for lay distribution by the central office.

3. Preparation of a recommended list of scientific books, pamphlets, and articles on cancer for post-graduate study by members.

4. Preparation of a pamphlet for lay distribution in which the importance of early recognition and other facts about cancer are stressed.

5. Cooperation with the Scientific Work Committee towards securing special cancer programs at county medical society meetings.

6. Close cooperation with the Federation of Women's Clubs and the American Society for the Control of Cancer in a state-wide lay educational program on cancer.

### HOSPITAL SURVEY COMMITTEE

1. A study of conditions and facilities in non-approved hospitals of the state.

2. Enforcement of regulations concerning cult practice in approved hospitals.

3. Service as a joint committee with the Kansas Nurses Association.

4. Service as a joint committee with the Kansas Hospital Association.

### MATERNAL AND CHILD WELFARE COMMITTEE

1. Assistance in the operation of the Maternal and Child Welfare portions of the Social Security Act.

2. Cooperation in the program of the American Committee on Maternal Welfare.

3. Cooperation with other committees toward furnishing postgraduate courses and lay information on this subject.

### MEDICAL ECONOMICS COMMITTEE

1. Establishment of a sub-committee organization wherein each member of the committee will serve as the chairman of a sub-committee composed of one representative from each county medical society in his vicinity.

2. Provision of medical economics information to the laity.

3. Provision of medical economics information to the profession.



# MENINGOCOCCUS ANTITOXIN

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*Journal of the American Medical Association,  
Volume 104, page 980, March 23, 1935.*

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Accepted for inclusion in New and Nonofficial Remedies by the Council on Pharmacy and Chemistry of the American Medical Association.

Parke, Davis & Co.—Detroit, Mich.

4. Study and recommendations about the legal status and services possible in Kansas, under hospital and other prepayment plans.

5. Institution of a professional medical economics survey.

6. Institution of a survey on interscholastic socialized medicine debates.

7. Assistance in the medical economics portions of the Social Security Act.

8. Study and recommendations about medical economics legislation.

9. Study and recommendations about medical care for subsidized groups.

10. Study and recommendations about medical care for nonsubsidized low income groups.

11. Study and recommendations about medical care for secure groups.

#### MEDICAL HISTORY COMMITTEE

1. Arrangement and study of Kansas medical historical information now on file at the State Historical Society.

2. Commencement of study toward the future publication of a Kansas Medical History for lay and professional use wherein the civic and scientific contributions of the Kansas profession will be outlined.

3. Arrangement to file annually with the State Historical Society, copies of important Society documents and accounts of Society activities.

#### MEDICAL HISTORY COMMITTEE

1. An investigation of possibilities for institution of medical economics courses at the University of Kansas Medical School.

2. Assistance in the medical training being given to social service students in the sociology departments of state schools.

3. Assistance in securing speakers from the University of Kansas Medical School for county medical society programs.

#### NECROLOGY COMMITTEE

1. Usual report.

2. An offer of assistance to needy physicians and needy orphans and widows of physicians.

#### PUBLIC HEALTH AND EDUCATION COMMITTEE

1. Preparation of mimeographed releases on various topics such as socialization, quackery, medical ethics, medical fees, etc., which would be suitable for printing into pamphlet form by the county medical societies and for possession and distribution by members.

2. Prepared talk outlines on socialization, Kansas healing laws, public health topics, health today as compared with fifty years ago, cancer, preventive medicine, etc., which might be retained in county medical society files for assistance to members in giving talks before lay groups and for standardizing information presented on medical subjects.

3. Establishment of a state speakers bureau wherein members would be invited to list topics upon which they are willing to speak to lay groups, and wherein the central office would frequently distribute printed copies of this list to lay groups in the state.

4. Establishment of county society speakers bureaus, similar to the above but local in scope, wherein county medical societies would rotate members for invited talks before various clubs, civic organizations, etc.

5. Preparation and distribution of weekly public health news releases to Kansas newspapers.

6. Study of a radio public health project.

7. Assistance in the public health features of the Social Security Act.

#### PUBLIC POLICY AND LEGISLATIVE COMMITTEE

(The program of this committee is still under consideration and will be discussed in a bulletin to be issued by Dr. E. C. Duncan, Chairman.)

#### SCIENTIFIC WORK COMMITTEE

1. Correlation of all Society postgraduate programs, as in the case of those obtainable through the Social Security Act, the Cancer Committee, the Maternal and Child Welfare Committee, the Medical School Committee, etc.

2. Preparation of a list of speakers available to county medical societies consisting of Kansas members, members of other societies, certain lay speakers, and certain commercial representatives.

3. Promotion of county society programs relating to diseases of rising incidence and mortality.

#### STORMONT MEDICAL LIBRARY COMMITTEE

1. Publicity campaign toward use of the lending service available at Stormont Medical Library.

2. Publication through the state printer of an index of Stormont Medical Library.

#### HOUSE OF DELEGATES MEETING

The following bulletin was forwarded to the secretaries of the county medical societies under date of March 3:

"Pursuant to the action of the Council at its recent meeting we are communicating the following information for presentation to your society:

"Despite the fact that The Kansas Medical Society will not hold an annual session during 1936 due to the close proximity of the American Medical Association meeting in Kansas City, Missouri, a meeting of the House of Delegates of this Society will be held commencing at 2:00 p. m. on May 11, at the Chamber of Commerce Building in Kansas City, Kansas. Official delegates and alternates should therefore be selected in the usual manner. The Council also requested that all county medical societies be urged to have their delegates present at this meeting inasmuch as several important items of business will be considered.

"Thanking you for calling this matter to the attention of your organization.

Clarence G. Munns,  
Executive Secretary."

#### DR. A. J. CRAMP RESIGNS

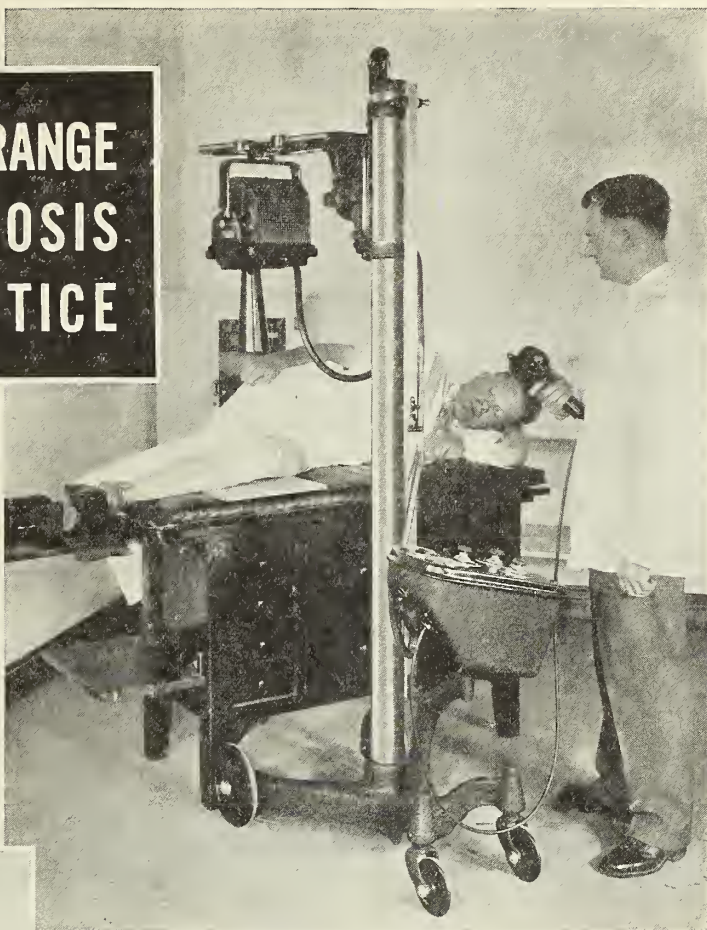
Dr. Arthur J. Cramp, founder of the Bureau of Investigation of the American Medical Association and its active head during the past 29 years, recently resigned his position because of ill health.

Dr. Cramp was originally affiliated with the Journal of the American Medical Association but his extensive knowledge about matters of propaganda and reform soon caused a department on those subjects to be placed under his jurisdiction. In addition to the many duties



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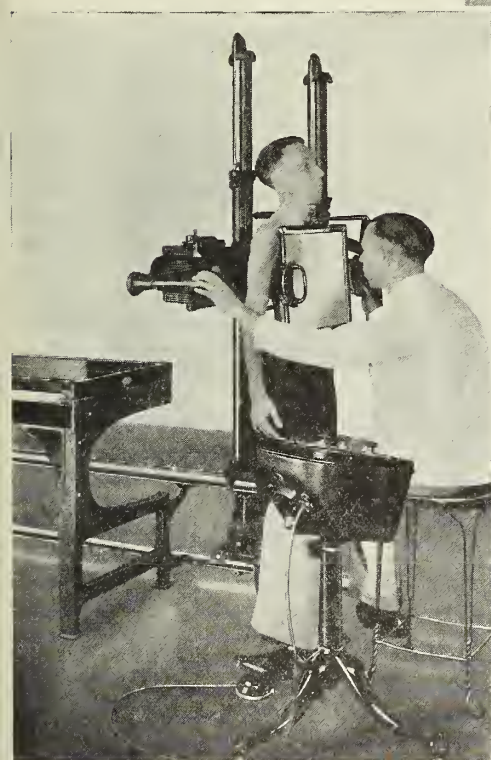


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*This is the "DRF" Unit, a combination of the Model "D" with an x-ray table for radiographic and fluoroscopic diagnosis. Here the tube head has been shifted along the floor rails to the foot of the table, for vertical fluoroscopy.*

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of that office, he has prepared numerous books and articles for lay and professional use. His many accomplishments speak for themselves that his retirement occasions a loss to the American Medical Association, the medical profession, and the public.

#### OFFICIAL CALL

To the Officers, Fellows and Members of the  
American Medical Association

The eighty-seventh annual session of the American Medical Association will be held in Kansas City, Missouri, from Monday, May the eleventh, to Friday, May the fifteenth Nineteen hundred and thirty-six.

The House of Delegates will convene on Monday, May the eleventh.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, May the twelfth, at 8:30 P.M.

The various sections of the Scientific Assembly will meet Wednesday, May the thirteenth, at 9 A. M. and at 2 P. M. and subsequently according to their respective programs.

James S. McLester, President,  
Nathan B. Van Etten,  
Speaker, House of Delegates.

Attest:

Olin West, Secretary,  
Chicago, Illinois, February the twenty-fourth.

#### POSTGRADUATE COURSE

Dr. Isreal Wechsler of New York City and Dr. J. W. Kernohan of the Mayo Clinic will cooperate with members of the staff of the Menninger Clinic in a postgraduate course held at the Menninger Clinic, Topeka, Kansas, April 20-25, 1936. The subject of the course will be "Neuropsychiatry in General Practice," and will conform essentially to the outlines of the course given last year. Lectures, case studies, and seminars included in the five and a half day course will be expressly directed to the application of modern neuropsychiatric principles to cases which the general practitioner frequently sees in this field. Enrollment in the course is limited to thirty.

#### NORTH-WEST REGIONAL CONFERENCE

The North-West Regional Conference, in which officers and committeemen from the Wisconsin, Minnesota, Indiana, Illinois, South Dakota, North Dakota, Colorado, Missouri, Iowa, Michigan, Nebraska, and Kansas state medical societies participated, was held in Chicago on February 16.

Dr. F. L. Loveland, Topeka, presented a paper which is reproduced in the Medical Economics section of this issue of the Journal.

Mr. T. V. McDavitt, a member of the Bureau of Legal Medicine of the American Medical Association,

discussed the legal aspects and current status of the Social Security Act. Dr. Harold M. Camp, Secretary of the Illinois State Medical Society, presented a discourse on "Reciprocal Relations Between State Medical Societies," which included among other things, recommendations that the state medical societies interchange all bulletins and notices of their activities, that they appoint delegates to the annual sessions of their neighboring societies, and that the officers of adjoining societies, hold annual conferences for discussion of plans and projects. Dr. Oliver J. Fay, of Des Moines, Iowa, gave a presidential address in which current subjects applicable to socialized medicine were stressed. Dr. Fred Moore, of Des Moines, Iowa, read a paper on "Inter-professional Relations in the County" which described advantages to be gained from close association between county units of medical, dental, veterinary, nursing, and hospital societies. All papers were extensively discussed and many other interesting comments and suggestions were presented.

Kansans who attended the meeting were Dr. H. L. Snyder, Winfield; Dr. J. F. Hassig, Kansas City; Dr. C. H. Ewing, Larned; Dr. J. L. Latimore, Topeka; Dr. L. G. Allen, Kansas City; Dr. F. L. Loveland, Topeka, and Clarence Munns, Topeka.

#### COMMITTEE MEETINGS

The Scientific Work Committee, the Public Health and Education Committee, and the Medical Economics Committee met respectively in Kansas City on February 16; in Winfield on March 3; and in Topeka on February 23.

Each committee discussed its program and made arrangements for immediate institution and organization of activities.

#### SUBSTITUTE APPOINTMENT

Dr. H. L. Snyder, President, has announced that Dr. A. J. Revell, Pittsburg, will serve during this year on the Medical Economics Committee in place of Dr. H. E. Marchbanks, Pittsburg, who was forced to resign his appointment by reason of other activities.

#### FHA LOANS FOR PHYSICIANS

Announcement has been made by the Federal Housing Administration that physicians and hospitals are eligible to participate in loans of that organization for purchases of equipment.

These loans may be obtained through local financial institutions and may include amounts up to \$2,000.00 for physicians, and up to \$50,000.00 for hospitals. No collateral other than a promissory note is necessary and monthly repayments may be made during a period of five years.

A partial list of the surgical and medical equipment which has been approved for this purpose is as follows:

Dental cabinets, surgical "cuspidors," deeptherapy tubestands, dressing and solution carriages, electrocardiographs (installed), fluoroscopes, fumigators (built-



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Treatment set, for Rabies.....	\$10.00
Friedman's test (for pregnancy).....	\$ 5.00
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Post-mortem service and Toxicology

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The requirement of eligibility of equipment is that it must be of permanent, utilitarian character. A hospital, for instance, can obtain an eligible loan covering x-ray machines, thermal cabinet, fluoroscopes and articles of like character, but such a loan cannot include surgical instruments, furniture or small portable appliances.

Additional information may be obtained through local financial institutions or through Mr. H. C. Bastien, Kansas State Director of the Federal Housing Administration, 309 Federal Building, Topeka.

### DEATH NOTICES

Dr. George D. Pendell, 72 years of age, died in a hospital in Wichita on February 18. His home was in Derby. He graduated from the Beaumont Hospital Medical College in St. Louis, Missouri, in 1891, and spent most of his life in Geneva, Nebraska. He was born in Illinois in 1863 and came to Kansas in 1928, and had been practicing medicine for nearly fifty years. He was a member of the Sedgwick County Medical Society.

### MEMBERS

Dr. W. R. Dillingham, Salina, was a guest speaker at the North Central Kansas Highway Officials meeting on February 19 in Salina. His subject was "The County Doctor Problem."

Drs. A. C. Dingus, Yates Center; O. A. Hennerich, Hays; L. A. Keller, Pittsburg; R. A. J. Shelley, Coldwater; A. M. Townsden, Jamestown, and R. M. Wyatt, Morrill, have been appointed as county health officers for 1936.

Dr. Earle G. Brown, Secretary of the Kansas State Board of Health, has been named as a member of the Special Advisory Committee of the Division of Vital Statistics of the United States Bureau of Census.

Dr. F. A. Carmichael, Osawatimie, and Dr. John Chapman, Osawatimie, are the authors of a book entitled "Guide to Psychiatric Nursing" which has just been published by Lea & Febiger, Philadelphia.

Dr. J. F. Hassig, Kansas City, and Dr. C. H. Ewing, Larned, president and secretary of the Kansas Board of Medical Registration and Examination, and Dr. H. R. Wahl, Dean of the University of Kansas School of Medicine, attended the thirty-second Annual Congress of Medical Education and Medical Licensure and Hospitals, in Chicago, February 17-18.

Dr. C. L. Miller, State Registrar of Vital Statistics, and Dr. R. B. Stafford, Director of Local Health Work, both of Kansas State Board of Health, Topeka, suffered injuries in an automobile accident on February 23. Dr. Miller sustained a fractured knee cap and Dr. Stafford a minor head injury.

Dr. Clyde Randall, Kansas City, has accepted a position on the staff of a hospital in Buffalo, New York, effective July 1, 1936.

### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending February 22	Month ending January 18
Scarlet Fever .....	1175	620
Chickenpox .....	985	892
Pneumonia .....	791	316
Mumps .....	466	194
Influenza .....	191	47
Whooping Cough .....	163	91
Measles .....	106	47
Syphilis .....	91	54
Diphtheria .....	70	49
Gonorrhea .....	69	34
Smallpox .....	59	71
Tuberculosis .....	46	43
Erysipelas .....	28	13
German Measles .....	19	12
Undulant Fever .....	16	17
Vincent's Angina .....	12	10
Pink-eye .....	12	6
Meningitis .....	9	9
Encephalitis .....	5	1
Poliomyelitis .....	4	1
Typhoid Fever .....	3	13
Cancer .....	1	5

### COUNTY SOCIETIES

Dr. R. J. Cabeen, Leon, was elected president of the Butler-Greenwood Medical Society at their meeting in February; Dr. G. G. Whitley, Douglas, vice-president; Dr. W. E. Janes, Eureka, secretary; and Dr. Bertram Johnson, Eureka, state meeting delegate.

Members of the Coffey County Medical Society held a meeting in Burlington on January 30, with Dr. H. L. Snyder, Winfield, as guest speaker.

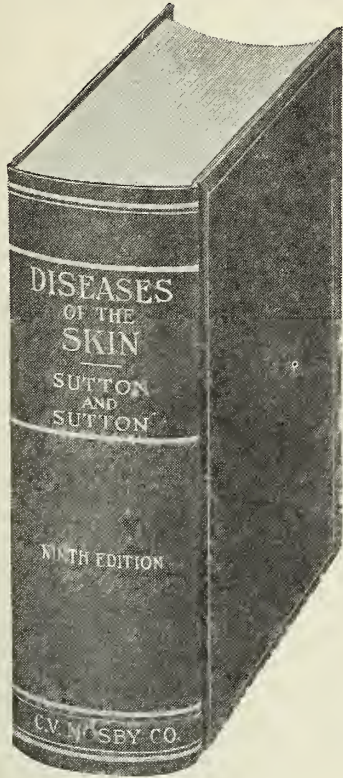
The Cowley County Medical Society held a meeting in Winfield on January 30. Dr. Warren Bernstorff, who recently returned from postgraduate study in Vienna, discussed political, economic and medical conditions in Austria.

Dr. Jessie E. Douglas, Webb City, Missouri, and Dr. William M. Kinney, Joplin, Missouri, were the



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# **SUTTON'S DISEASES OF THE SKIN**



## **WHAT THE CRITICS SAY:**

### **Journal American Medical Assn.—**

"The excellence of the work is revealed by a careful examination of its contents."

### **The Lancet (London)—**

"Probably the most complete and trustworthy work of reference on its subject in the English language, and is worthy of a place on the shelves of every practicing dermatologist."

### **British Journal of Dermatology—**

"The type and general make-up of the book are admirable, and we have no doubt of its continued success."

### **U. S. Naval Medical Bulletin—**

"This is one of the best written and most handsomely illustrated manuals on dermatology in print. The skin lesions of gangosa, verruca peruana, oriental sore, leprosy frambesia, and other tropical skin lesions are given more extensive treatment than is commonly the case in American works on dermatology."

### **Virginia Medical Monthly—**

"Every practitioner needs in his library a standard work on dermatology. To the specialist this book is particularly desirable because of the bibliography which is appended to each subject. Its field of usefulness is tremendously wide. Its illustrations and the idealism of the publisher, as expressed in the technique of printing, make it a very desirable book."

### **Minnesota Medicine—**

"Sutton's volume on dermatology which first appeared in 1916 has been accepted as one of the best standard texts on the subject. The present volume is a large volume of 1,433 pages, and is especially valuable on account of the abundance and excellence of the photographs."

### **Southern Medical Journal—**

"The commanding place of this work among the standard texts in English on skin diseases is made even more secure by this fine edition."

### **Archives of Dermatology and Syphilis—**

"It is encyclopedic and scholarly. It has the spirit of an enthusiastic devotee of a specialty, and it has the vigor and piquant spirit that are Sutton. There is no need to advise dermatologists or other physicians that it should be on their shelves. They have already decided that for themselves, and in one edition or another it is found everywhere."

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By **Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S. (Edin.)**, Professor of Dermatology, University of Kansas School of Medicine, and **Richard L. Sutton, Jr., A.M., M.D., L.R.C.P. (Edin.)** Assistant in Dermatology, University of Kansas School of Medicine.

**The C. V. Mosby Company—Publishers—3523 Pine Blvd.—St. Louis, U. S. A.**

guest speakers at a meeting of the Crawford County Medical Society in Pittsburg on January 30. Their topics were respectively, "Tuberculosis Pericardio Effusion" and "Coronary Disease."

At a meeting of the Douglas County Medical Society held in Lawrence on February 6, Dr. M. T. Sudler, Lawrence, and Dr. C. C. Dennie, Kansas City, Missouri, were the principal speakers.

The Ellis County Doctors Club recently held an election of officers for 1936 and the following will serve during the coming year: Dr. C. D. Blake, Hays, president; Dr. A. M. McDermitt, Ellis, vice-president; and Dr. O. A. Hennerich, Hays, secretary-treasurer.

Members of the Ford County Medical Society held a dinner meeting on February 14 in Dodge City. Guest speakers on the program were Dr. Lawrence S. Nelson, Salina, who spoke on "Wertheim Interposition," and Dr. George B. Kent, Denver, Colorado, who discussed "The Surgical Management of Malignant Lesions of the Colon and Rectum."

Thirty members of the Labette County Medical Society attended a monthly meeting of that society held in Parsons on January 29. Dr. Raymond Diettrich, Fort Scott, spoke on "The Treatment and Cure of Bone Infections."

At a dinner-meeting of the Marion County Medical Society in Marion on February 5, the debate teams from Hillsboro and Goessel presented a discussion on the subject: "Resolved, that the states should enact legislation providing for a system of complete medical service available to all citizens at public expense."

Officers elected to serve during 1936 in the Meade-Seward County Medical Society are as follows: Dr. A. L. Hilbig, president; Dr. W. T. Grove, vice-president; and Dr. W. N. Lemmon, secretary, all of Liberal. A motion picture film entitled "Tuberculosis and its Treatment" was shown to members of the society on February 14 in Liberal.

The Nemaha County Medical Society is making arrangements to give free diphtheria immunization to all children in Nemaha county.

Dr. James A. Butin, Chanute, read a paper on "Obstetrics," at a meeting of the Neosho County Medical Society in Chanute on February 6.

Members of the Pawnee County Medical Society met in Larned on February 11 for an annual election of officers. Those elected to serve during 1936 are as follows: Dr. Henry H. Asher, Larned, president; Dr. H. H. Wright, Larned, vice-president; Dr. Mary H. Elliott, Larned, secretary-treasurer; Dr. C. H. Ewing, Larned, state meeting delegate.

A dinner-meeting of the Pottawatomie County Medical Society was held in Wamego on February 4.

Dr. B. R. Kirklin, head of the section on roentgenology of the Mayo Clinic, Rochester, Minnesota, was the guest speaker at a meeting of the Sedgwick County Medical Society on February 4 in Wichita. At the regular monthly meeting held on February 20 the following local physicians appeared on the program: Dr. E. J. Frost, Dr. C. H. Rombold, Dr. A. R. Hodson,

Dr. A. E. Bence, Dr. Earl Mills, Dr. E. D. Ebright, and Dr. A. P. Gearhart.

The Washington County Medical Society held a meeting on February 4 in Washington. Guest speakers on the program were Dr. A. P. Bryant and Dr. R. W. Taylor of Beatrice, Nebraska, whose subjects were respectively "External and Middle Ear Infections," and "Common Ocular Pathology with Suggestions for Treatment."

The regular monthly meeting of the Wilson County Medical Society was held in Neodesha on February 17.

Members of the Wyandotte County Medical Society held a meeting on February 4 in Kansas City with the following speakers and topics: Dr. H. R. Wahl, pathological conference; Dr. H. V. Holter, "Treatment of Puerperal Sepsis"; and Dr. E. S. Miller, "Carotinemia," all of Kansas City.

The Tri-County Medical Society meeting was held on February 12, in McPherson. Member counties attending were Harvey, Marion and McPherson, and guest counties were Saline, Rice and Reno societies. Dr. Ralph Bowen, Oklahoma City, Dr. Clinton K. Smith, Kansas City, and Dr. Lloyd Stockwell, Kansas City, were speakers on the program with topics respectively as follows: "The Practical Management of Allergic Problems as Seen in General Practice"; "Prostatic Hypertrophy and Electroresection of the Prostate"; "Some Practical Considerations in Spinal Anesthesia."

#### NEW BOOKS RECEIVED

THE 1935 YEARBOOK OF PEDIATRICS, Edited by Isaac A. Abt, M.D., professor of pediatrics, Northwestern University Medical School, Chicago, and Arthur F. Abt, M.D., associate in pediatrics, Northwestern University Medical School. Published by the Year Book Publishers, Chicago, at \$2.25 per copy.

YOU MUST EAT MEAT by Max Ernest Jutte, M.D., former lecturer on stomach and intestinal diseases, at the New York Polyclinic Medical School. Published by G. P. Putnam's Sons at \$2.00 per copy.

COMMON CONTAGIOUS DISEASES by Philip Moen Stimson, M.D., assistant professor of clinical pediatrics, Cornell University Medical College. Published by Lea & Febiger, Philadelphia, at \$4.00 per copy.

THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA, 11th decennial revision. Prepared by the Committee of Revision and Published by the Board of Trustees. Published by the Mack Printing Company.

#### KANSAS MEDICAL AUXILIARY

Dear Auxiliary Members:

I shall greet you this time through the Journal of the Kansas Medical Society. I hope you have been searching each month and have not been too disappointed that our Auxiliary has not availed themselves of the

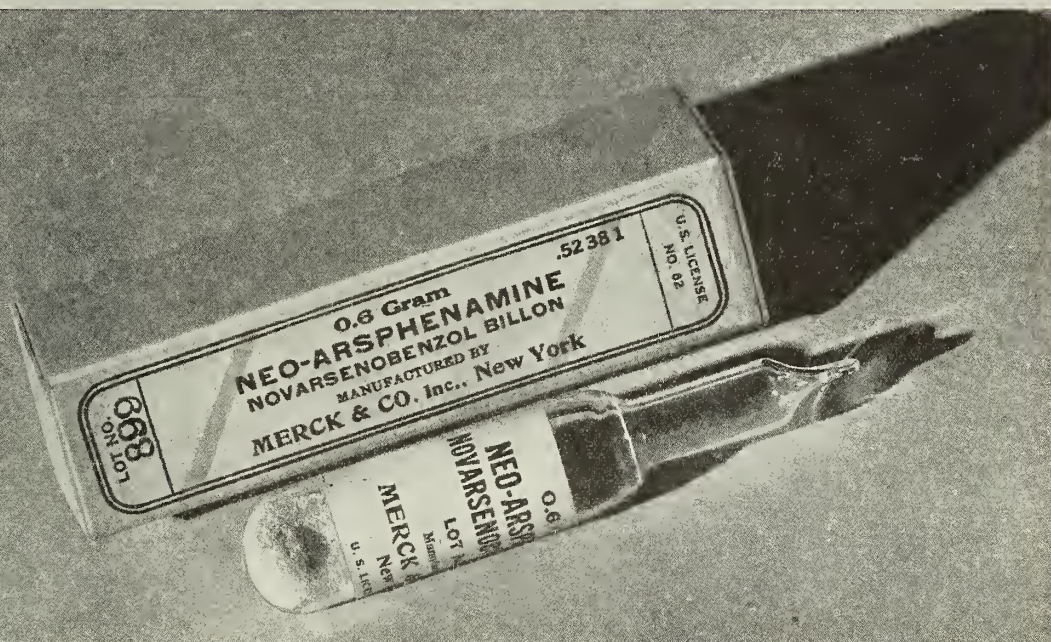


# THE TREATMENT OF EARLY-SYPHILIS

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space so kindly given us in the Journal. That is the medium through which we should be able to learn of the activities of each County Auxiliary.

I had the privilege of accepting two invitations to visit County Auxiliaries. Wilson County invited me to a dinner meeting in Neodesha Monday evening, February 17, and Labette County invited me to a luncheon meeting Tuesday, February 18. These are "live wire" Auxiliaries and in spite of the weather only one member was absent and that because of illness.

Next month we hope to announce the date and place of our annual meeting for election of officers and report of our year's work.

Sincerely,  
Maude Hand Nyberg.

—JKMS—

Auxiliary of Kansas State Medical Society.—The Kansas Medical Society is an organization which looks after the interests and welfare of the medical profession and citizens of the state of Kansas.

The Society is composed of several units which are called county medical societies. Originally these county societies were formed for the purpose of discussing scientific subjects pertaining to medicine alone. But in the last few years it has been necessary for the Society to branch out into other interests which are very vital to our profession. These are covered very thoroughly by thirteen committees.

The subject which I have been assigned to discuss in this article is "The Womans Auxiliary to the Kansas Medical Society." They originally were organized for a social purpose, but as years have gone by they found it quite necessary to develop into a much larger field.

This, the same as the men's society has been accomplished by the following committees: Social, Public Relation, Health, Education, Hygeia and Legislative.

The Social Committee has brought a cooperative spirit between themselves and the members of the society creating a friendly atmosphere which could not be equaled by any other means. They have made it easier for the younger doctors' wives to be introduced and work in the other organizations of their communities.

The Public Relations Committee covers a field of which we are seldom aware, such as seeing that the proper medical speakers are placed on the different lay organization programs; urging periodic health examinations of school children in the office of the family physician in preference to mass clinic; essay contests in the different schools, material being obtained from Hygeia and other A.M.A. literature. The Health Education Committee furnishes all medical literature for self education and all lay organizations.

Hygeia Committee distributes the Hygeia in schools and public places where the students and citizens have an opportunity to read medical literature instead of only the Christian Science Monitor.

The Legislative Committee has assisted the legislative committee of the mens society in attempting to pass the Basic Science Law.

Dr. H. L. Snyder, our State President, wishes to stress an education program during his term of office. This is being started by having a cancer program in six different cities over the state of Kansas. The Committee on Control of Cancer has obtained three very interesting and

influential speakers on this subject. It is urged that every doctor's wife has this announcement made in all the organizations in their community as to time and place. This program will be found in detail in this Journal.

It is contemplated in the near future to have a meeting of the Advisory Committee, state officers and all county presidents of the Auxiliary with Dr. H. L. Snyder and discuss all subjects pertaining to the Auxiliary.

Mrs. W. G. Emery.

—JKMS—

Members of the Auxiliary of the Wilson County Medical Society met Monday evening at the Brown Hotel in Neodesha for dinner with the Medical Society, followed by a study meeting at the home of Mrs. J. L. Moorhead. Mrs. M. O. Nyberg, Wichita, state president of the Auxiliary was the guest of honor, and was presented a shoulder bouquet by the Auxiliary. Mrs. Nyberg discussed briefly the convention at Atlantic City, N. J., last summer and presented other matters of interest to the group. Mrs. J. W. McGuire discussed "The Black Widow" and displayed a preserved specimen, and Mrs. B. P. Smith talked on the topic, "Why Condition the Air?" A donation of wastebaskets, tray cloths, ash trays, tea towels, vases and wash cloths was made to the hospital. Present at the meeting were Mesdames W. H. Young, E. C. Duncan, A. C. Flack, H. E. Morgan and Lynn Beal of Fredonia and Mesdames J. W. McGuire, J. H. Humphrey, W. T. Rich, B. P. Smith and J. L. Moorhead, Neodesha, and Mrs. M. O. Nyberg, Wichita. Mrs. W. H. Young.

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The U. S. Pharmacopoeia (IX, 1916, and X, 1925) recognized cod liver oil as the oil from the livers of fishes of the family *Gadidae*. There being some 50 species in this family, in addition to the type species, *Gadus Morrhua*, our first studies were directed at the examination of the more important species classed as cod. It occurred to us that somewhere in nature there might exist a species, or a family, or an order of fish, the liver oil of which would make possible a mixture comparable with Oleum Morrhuae but higher in vitamin potency.

The study was then directed to other species. By 1927 we had quantitatively compared the antiricketic value of oils from 15 species of fish and 11 other oils and fats. This was the most extensive survey of vitamin D sources reported up to that time. Outstanding in this list was puffer fish liver oil with a vitamin potency 15 times that of cod liver oil. Puffer fish were not available in commercial amounts, but the fact that one species of fish yielded so high a vitamin store provided great stimulus to investigators.

We discovered that the potency of fish liver oils increases with the leanness of the livers. With this revelation, we began a survey of all available commercial fish, as well as of rarer species. Collectors were sent to distant continents and to the islands of the Pacific and Atlantic oceans. From ports which never before knew cold storage we arranged to obtain refrigerated livers for our experiments. This ichthyological survey was interrupted (1928) at the time we introduced activated ergosterol.

In 1929 the Norwegian investigator, Schmidt-Nielsen, reported halibut liver oil to be superior to cod in vitamin A. Upon investigating, we felt then, as we do now, that while halibut liver oil

marked a distinct advance it left much to be desired since it was perforce an expensive source of vitamin D. Hence it came to be used chiefly to supply vitamin A as a vehicle for viosterol.

Continuing the search for fish liver oils, by 1934 our laboratory staff had made thousands of bioassays of oils from more than 100 species to determine their vitamin characteristics. The results, reported in scientific journals in January and April 1935, were the culmination of a search literally of the seven seas.

With cumulative data on more than 100 species, it became evident that the fish belonging to the order known as *Percomorphi* differ from others in possessing, almost without exception, phenomenal concentrations of vitamins A and D. Thus we find liver oils which contain 50, 100, 500, and even 1,000 times as much vitamin A or vitamin D as average cod liver oil!

Percomorph liver oils are seldom equally rich in both vitamins. By skilful blending of the A-rich oils with the D-rich oils, a mixture is obtained which is about 200 times richer than cod liver oil in both vitamins A and D. As this concentration is so great that an ordinary dose of the oil could not be conveniently measured, we dilute the percomorph oil with approximately one volume of refined cod liver oil.

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Just as Oleum Morrhuae is a mixture of the liver oils of various cod species (cf. U.S.P. XI, 1935, p. 261) so Mead's Oleum Percomorphum is a mixture of the liver oils of various percomorph species.\*\* The significant difference is that the improved product is 100 times as potent\* in both vitamins A and D.

Mead's Oleum Percomorphum, 50%, is available in 10-drop capsules, 25 in a box; and in 10 cc. and 50 cc. bottles. Mead's Cod Liver Oil Fortified With Percomorph Liver Oil is available in 3 oz. and 16 oz. bottles.

\*U.S.P. XI Minimum Standard.

\*\*Principally *Xiphias gladius*, *Pneumatophorus diego*, *Thunnus thynnus*, *Stereolepis gigas*, and closely allied species.

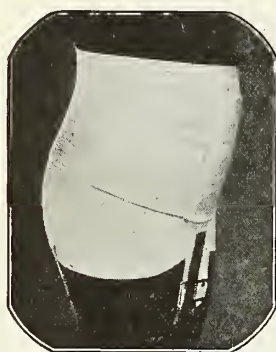


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# THE JOURNAL

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## Kansas Medical Society

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### SELF MUTILATION IN PARANOIA\*

NORMAN REIDER, M.D.

Topeka, Kansas\*\*

Asceticism, martyrdom, self-mutilation, and suicide, psychologically considered, have a great deal in common. It is not our purpose to discuss these problems but to offer a psychiatric study of a case of self-mutilation. It is not common that such cases can be subjected to clinical investigation so that the psychological motivation can be retraced. For this reason this case, in which self-mutilation occurred in a fifty year old manufacturer who for ten years had displayed eccentric behavior and a Messianic delusional system, is described. Paranoia is a disease in which the outstanding characteristic is a slowly developing systematization of delusions and in this patient this development was closely interwoven with his self-punitive tendencies, as will be demonstrated.

#### HISTORICAL DATA

The patient was the third of eight children born to a middle class storekeeper and his wife in a southwestern state. His early physical development contained no unusual incidents. However, he did receive an inordinate amount of religious training. At the age of five and a half years, on finding a picture of Christ, he ran with it to his mother. She then told him about Christ's suffering, about sin, and hell's fire. He was apparently quite impressed and said that had he been present he would not have allowed Christ to be crucified, and then expressed a desire to burn in hell's fire in order to save others.

Though an obedient and compliant child, who was strictly submissive to the moral precepts inculcated within him, as he grew older

he began to swear and lie a great deal. However, at the age of sixteen, while living with his grandmother, who literally hounded him with religious exhortations, he was baptized and decided to live a good Christian life.

At eighteen he began work in his father's bicycle shop, where he was industrious and faithful. Two years later he left to assist in an uncle's clothing factory. Within a few years he had saved enough money to buy his uncle out. He launched lavish, freakish, and circus-like advertising stunts, sponsoring motorcycle races and broncho-busting. Gaudy automobiles paraded the streets with his name. He let loose roosters on the main street with five-dollar bills tied to their legs. His business flourished and he became wealthy.

At the age of twenty-eight he married soon after he was rejected by another girl whom he loved. His wife, also in the throes of an unhappy affair, married him for his money and told him so. After his marriage he became interested in aviation. He made a trip to Rome, ostensibly for pleasure, but he did not tell his wife that the real reason was that he was looking for a landing field to fly there from the United States. Shortly after his return he bought a plane, cracked up on his first flight but escaped injury except for the loss of his front teeth.

Later his interest turned to public service on a grand scale and he spent \$100,000 of his own money on a public benefaction of nationwide scope. For reasons of discretion this cannot be described here, but it may be said that this not only represented a great personal sacrifice on his part but the nature of the project was such that it had great symbolic value to him, representing his desire to find a way out of his mental distress and conflicts.

One day, at the age of forty, while in his travels, he found himself in a midwestern city

\*Read at the meeting of the Central Neuropsychiatric Association in Topeka, Kansas, October 26, 1935.

\*\*From the Menninger Clinic and Hospital.

where by chance he came upon an exhibition of wax figures, among which was a figure of Christ. Magnetically attracted by this figure he rented the exhibition at an exorbitant price, displayed the statue in the most prominent place, delivered religious exhortations to the crowds that gathered, and made himself such a public nuisance that he was put in jail. A month later he attempted to crucify himself. He burned his feet and hands on a radiator and gashed his palms with a sharp instrument. He urinated and defecated on the floor, rolled his body around in his excreta, and ate them. He developed gangrene of the toes of one foot and these had to be amputated.

This led to his first commitment in 1925 at the age of forty. In the next ten years he was in and out of thirteen mental institutions. In all of these he was so deliberately resistive, made so many attempts to escape, and so provoked his guards that he frequently invited and received physical punishment.

In the intervals when he was not in institutions he continued his feverish promotion activities. He planned ceremonies for celebrities like Will Rogers, Amelia Earhart, and Charles Lindbergh. He devised schemes for making a highway from Vancouver to Tampa. He traveled great distances to attend all sorts of conventions. On numerous occasions he endured suffering and privation with great relish because it was in the name of Christ. He would deliberately hitchhike for miles with insufficient clothing and no money on some God-sent errand. On one of these trips he made his way to New York to solve the Lindbergh kidnapping.

In September, 1934, while in Panama, he returned to his hotel one night barefooted and dressed in rags. He had seen a crucifix made from flowers and being thus reminded that he should be humble and that he had really done nothing to deserve what worldly goods he had, he traded clothes with an old peon. The next day he became disturbed, talked incessantly, cut a crucifix on his forehead with a razor blade, and finally had to be put under the care of a physician. A month later he was brought here.

#### EXAMINATIONAL DATA

**Physical Examination:** The patient was a middle aged man of asthenic habitus with many self inflicted scars. The toes of his left foot were amputated. A slight degenerative choroiditis was present in the right eye.

**Neurological Examination:** There was no evidence of organic disease of the nervous system.

**Laboratory Findings:** All laboratory tests were normal except for the presence of sugar in his urine and fasting blood sugar ranging from 162 to 350 mgm. per 100 cc.

**Psychiatric Examination:** In appearance the patient resembled to a great extent the late Will Rogers. He was alert, agile, had a twinkle in his eye, wore a facial expression of elation and great self-satisfaction. Readily accessible, he spoke freely about everything except those matters which he felt God would not wish him to discuss. In response to a question he did not wish to answer he would say, "Put a zero after that."

He wrote and drew extensively of his road-mapping, airway plans, religious matters and sexual desires. Many of these were patently symbolic. He was oriented and cooperative; his memory was excellent; he was not hallucinated. His mental output was full of means of solving the Lindbergh case, of getting Colonel Lindbergh and Orville Wright interested in new schemes for airway mapping, of making Amelia Earhart "first woman in aviation," of plans combining a beauty contest with a wheat exhibition. In fact, practically all of his plans included a beauty contest wherein a beautiful girl would be chosen to symbolize the fruits grown in his home state, and then be sent to Washington to meet the president. He had delusions that he was an agent of God on earth destined to carry out his work at great costs and with much suffering in a Christ-like fashion. The world was full of sinners. He believed God assigned him, the humble servant, the task of showing them the "right road" and bringing them close to God.

#### COURSE IN THE HOSPITAL

As soon as he came to the hospital the patient issued an ultimatum that everyone must cooperate with him in the execution of his promotional and religious plans. This attitude, the delusional trends, and his provocative behavior were his prominent initial characteristics. He attempted to snatch keys from nurses and attendants and he destroyed furniture; after persisting in this behavior for a long while and finding that it led to no punishment, he finally said: "What do you have to do here to get beat up?"



## ANALYSIS OF EMOTIONAL PATTERNS

The patient's mother was a highly idealistic and religious woman who imbued her son with Christian doctrines drawn from the biblical stories she told him for hours on end. The greatest of these principles was that of suffering to atone for one's sins. She was ordinarily gentle and affectionate, but when vexed would beat her children severely. His father, a very stern man, who once moved the family to an isolated ranch when his daughters displayed too much interest in clothes, aided this moral trend by imposing upon him early in life a dichotomy so far as women were concerned. There were two kinds—"pure girls" and "chippies" and he was warned that his dealings were to be only with pure girls. He loved his father very much and said that when he died he lost his only friend. He took a somewhat similar submissive attitude to his older brother, an aggressive fellow whose stories of sexual experiences delighted the patient tremendously.

His marriage took place under peculiar circumstances: his wife was in love with and pregnant by another man. He knew these circumstances and intuitively felt that he would suffer torture in her hands. An ominous sign occurred immediately after the marriage ceremony when another man got the first kiss, for later his wife proved unfaithful to him. She frequently battered him around physically and he accepted it all in a martyr-like manner. He had no respect for her, compared her to spinach while other girls were like ice cream. Yet he would not leave her.

With business associates and friends he got along splendidly. He was extremely sociable and affable in company.

The religious coloring of his grandiose promotion schemes were evident. To the patient these were all an expression of Christian endeavor—in fact, he said that his interests in road marking were merely to find the "right way". His preoccupation with aviation was likewise an attempt to find the "Wright" way. Frequently he used the terms "right" and "Wright" interchangeably. It has been mentioned how prominent a role beautiful girls played in these elaborations. He considered himself a missionary of God on earth to do his work. Nothing else mattered. He had to show God that he was humble—that is why he ate his feces and urine. Once he characterized himself as God's stable keeper. Furthermore, each

time he sinned he had to impose a punishment upon himself. He would have to suffer a lot before he could be happy. But for all his efforts, all his sufferings and all his pain he was to be rewarded with the love of a "pure girl." His own brief philosophical formula was "Life equals pain, 'piece' and love."

## ANALYSIS OF SEXUAL LIFE

Nothing is known of this patient's pregenital experiences. The earliest he could remember was that from the age of five and a half he was the most passionate man in the world. Masturbation and homosexual experiences he denied but reported numerous incidents of emissions if a pretty girl spoke to or touched him. He craved the love of "pure girls" and pursued them relentlessly. So long as a girl did not permit him to touch her, his ardor and passion were at a white heat. But as soon as she began to yield and was willing to submit to sexual contact he evaded the issue and fled. Thus he avoided sexual contact with women until his marriage. His marriage did little to alter his feelings about beautiful and pure women. He phantasied himself having intercourse with them. Once after such a dream he plunged himself into a scalding bath and received severe burns. All to no avail, for as he stated, "The more I suffer the more passionate I become."

## INTERPRETATIVE DIAGNOSIS

Here is a slowly enlarging delusional system, characterized by exorbitant expensive schemes and projects, which encroached upon and eroded the patient's reality adjustments. This system is grandiose and intricately woven. At one pole it is sexual in nature and at the other religious and self-punitive. From time to time there were episodic outbursts of violent masochistic trends.

What made this situation possible? First, we can see an attitude of worshipful reverence toward his mother who represented the ideal Christian woman to him. Yet this feeling was mingled with and somewhat overshadowed by the fear of burning in hell for indulging in sin, which his mother also represented to him. Already the elements of love, sin, and punishment were interacting in a pattern which shaped his future behavior. His mother, although beloved, seemed dangerous because of the fearsome religion she had taught him and forced him to expect most of his love from his father, and this could only be attained if he were humble, submissive, and Christ-like.

As he grew older the usual sexual outlets were self-prohibited because of too powerful a conscience. When he married it was to a woman whom he knew would make his life miserable; in other words, he could not permit himself sexual indulgences without the presence of some mechanism of punishment.

After his father died he began to display a psychotic identification with Christ. This he accomplished in his illness. He could now be as important as God because he was God's servant and at the same time the humblest man on earth. He spread the gospel of the "right way" (which would lead others to God and ultimately himself to a divinely pure and beautiful girl.) Yet this exalted position and its rewards would have to be dearly bought by extravagant atonements. Thus he struck a balance in his psychosis between his erotic cravings and his self punishment.

#### CASE SUMMARY

1. Descriptive Diagnosis: A. Paranoia. This clinical picture corresponds to the accepted description of the disease with its systematized delusions, megalomania and hypererotism. Hypochondriasis, however, was not at all present.

B. Diabetes Mellitus.

2. Treatment Recommended: A. Hospitalization for a period to be determined by his progress.

B. Psychotherapy with an opportunity for mental catharsis with a physician whom he considered a bosom friend.

C. Sedative Hydrotherapy.

D. Occupational therapy in the form of hard menial labor to furnish a substitute for his self-punitive trends.

E. Recreational therapy in the form of competitive games when his condition warrants.

F. Diabetic diet and insulin to control diabetes.

3. Prognosis: The prognosis was regarded bad chiefly because of the patient's complete satisfaction with his illness. However, it is a well known clinical fact that in such cases where episodic exacerbations and remissions take place the prognosis may be better than in others.

#### STAFF DISCUSSION CONSENSUS

The diagnosis and recommendations for treatments were concurred in by the staff.

#### SUBSEQUENT COURSE AND NOTE ON DISCHARGE

The above outlined treatments were instituted. He was placed at hard work in the garden, a task he followed faithfully. Frequent interviews with a staff physician were held at which his provocative behavior was discussed in the light of the connection between his sexual drives and his desire for punishment. Gradually he acquired sufficient insight to enable him to realize how he had been erotizing his punishment. From then on improvement was rapid. His excited phases decreased and the sexual symbolism disappeared from his writings. He developed a tender attachment to a nurse, to whom he wrote long passionate letters. It was as if, with the decreasing need for punishment, he could permit his cravings to be directed toward a single object. Thus we can see that his recovery traits provided more socially acceptable substitutes for his psychotic symptoms.

At the end of six months the patient was discharged from the hospital. He is not cured for we know that such a delusional system is probably never completely surrendered. But there can be no doubt that the therapy, directed along the lines which psychiatric understanding of his case indicated, led to an improvement.

#### SUMMARY

A case of paranoia is described, wherein self-mutilation and self-privation were prominent features. A study of the psychological factors is related wherein an attempt is made to demonstrate that the patient's early life experiences led him to adopt behavior patterns whereby he was forced to punish himself for his indulgences. Psychiatric treatment on the basis of this interpretation was outlined and carried out with an improvement in the patient's condition.

—JKMS—

Physical ills are the taxes laid upon this wretched life; some are taxed higher, and some lower, but all pay something.—Chesterfield.

—JKMS—

With a learned physician and an obedient patient, sickness soon disappears.—Rhazes.

—JKMS—

Truly it is better to cure diseases than to foretell their course, but this is unfortunately not always possible.—Hippocrates.

—JKMS—

Medicine, individualistic in infancy, is by virtue of its normal development about to become social with the force of age.—E. Rist.



## NEWER ASPECTS OF PROSTATIC SURGERY\*

CLINTON K. SMITH, M.D.

Kansas City, Missouri

We have chosen to present and demonstrate the procedure of transurethral prostatic resection today because it represents the most recent and the highest type of surgical achievement peculiar to the development of urology as a surgical specialty.

The idea itself is not new, on the contrary it had its inception almost a century ago, in the crude pruning knife-like instruments devised at that time to incise the bladder neck. Needless to say the devastating attendant mortality, prevented the procedure from attaining anything like popularity.

It is a far cry from that day to the present time and the delicately mechanized Stern-McCarthy resectoscope. We shall not impose on your time to recapitulate the rather recent development of this instrument and its use as we feel that with this you are all quite familiar. What we do wish to present, however, are some newer ideas or aspects concerning the proposition which we feel have to do with certain factors pertaining very definitely to the element of morbidity and mortality.

Incorporating as this does the revolutionary idea of reducing the mutilating and sanguinous operation of prostatectomy to a relatively benign and almost bloodless cystoscopic procedure, one is likely to become engrossed in the fascinating mechanical aspects to the extent of disregarding some very hazardous physiological and pathological factors.

If this procedure is to survive the test of time, it must attain two outstanding accomplishments. First, the immediate morbidity and mortality must be maintained on an extremely low plane, and the clinical end results must be relatively satisfactory and permanent.

We feel impelled to say that while prostatic resection is potentially all that its ardent advocates claim for it, it is at the same time potentially a most hazardous procedure. The qualified resectionist should have a ground work of prostatic surgery in the old school and a wide experience in cystoscopic technic. Everything depends upon a most carefully

planned and executed system of management. The novice has no more place at the end of a resectoscope than at the controls of an air-ship. We are sure the occasional prostatectomist or cystoscopist will be happier to stick to prostatectomy or prostatic massage. If the truth can be elicited, among the men whose previous experience well qualifies them as potential resectionists and who have subsequently performed the operation several hundred times, it would be found that most of them have passed through some most disturbing morbidity and mortality experiences. On one point they are all in accord, that only after the first hundred cases did they really begin to get their bearings. Personally, we had the unique experience of operating our first twenty cases (rather well selected) without a fatality, and then, when everything seemed rosy, things began to happen. On several occasions, when the patient seemed well on the way to recovery (four to five days after operation) he became toxic with chills and high fever and succumbed to peri-prostatic and perivesical sepsis. At autopsy these cases showed an appalling necrosis and sloughing of the bladder and all adjacent tissues. One outstanding and interesting element obtained in all the cases however, the prostate itself, on microscopic resection appeared relatively normal histologically. In other cases recognition of the morbidity trend, together with hasty suprapubic drainage, snatched the burning brand from the fire. In these cases it was noted that a gray sloughing process had extended in a symmetrical manner for quite some distance onto the bladder from the prostatic area, a circular involvement all about the bladder neck. In one other case when the patient was apparently well on his way to recovery, a periurethral sepsis set in resulting in death. More of urethral infection will be said later.

While we have had an occasional annoying hemorrhage, this, we feel, is mostly a matter of controllable technic. Sepsis, however, is the key to practically all morbidity and mortality in the cases, and curiously enough the size of prostate apparently has very little to do with it. You may rest assured that after several tragic experiences we began a most attentive inquiry into the nature of the pathological process.

About that time our esteemed colleague, Dr. John Caulk, published the results of a painstaking experimental study of the action of the

\*Clinical presentation before the sectional meeting of the American College of Surgeons, Kansas City General Hospital, March 12, 1935.

various types of currents on various media and tissue. This added nothing to our comfort. However, as our experience progressed three interesting observations began to assume importance to us. First, the patients who developed sepsis if promptly drained suprapubically recovered; second, several cases in which suprapubic drainage had been done elsewhere several months previously, were resected with noticeable absence of any sort of reaction; third, in a few cases in which a second sitting was required, no reaction even approaching that following resection in the favorable cases, occurred. These clinical phenomena suggested to us that the difficulty lay in a local condition of the prostate or adjacent tissues which open bladder drainage or the previous action of the high frequency current changed or corrected.

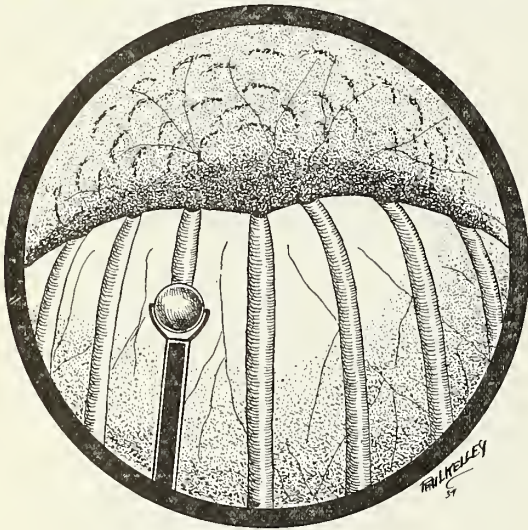


FIGURE 1

It was further noted, and has so been reported by other resectionists, that the prostate by cystoscopic observation at the second sitting, undergoes a considerable shrinkage after the primary resection. This observation together with the foregoing clinical deductions suggested the idea of a mild form of preliminary shrinkage or dehydration of the prostate as a prophylactic measure. Accordingly, we began applying the idea of running several intermittent lines of light dessication over the prostate, using the resectoscope and the McCarthy ball-roller electrode. (Fig. 1.) In our series of cases to date, approximately 200, this plan has been applied consecutively in the last 125 cases in which our clinical observations may be summed as follows: Primarily, there was a moderate rise in temperature of three to five

days duration. The resection was then carried out as soon as the temperature became normal. At the time of operation there was noted a blanching and very considerable shrinkage of the prostate. Second, in consequence, there was less tissue removal necessary; the firmness of the tissue facilitated the moulding of the canal as the walls stood up well rather than falling in on the operator as in previous resections; bleeding was materially less. Finally, later observation disclosed a symmetrical bladder neck by cystoscopic observation.

The postoperative clinical course was pleasingly mild as compared with primary resection. Usually the reaction was less than that following the preliminary shrinkage procedure. Postoperative bleeding or oozing was much less and often absent altogether.

The functional results have been better in that after shrinkage, the moulding of the bladder neck is done with greater accuracy and there is less likelihood of distortion of the mould on healing. In consequence, there have been only two cases in this series, 125 cases, requiring a second sitting.

There have been no postoperative deaths in this series and the only patients who have been acutely ill have been three cases of periurethral catheter infection requiring perineal incision and drainage.

The favorable clinical aspects which followed the preresection shrinkage of the prostate either by electro coagulation or by suprapubic drainage aroused our curiosity to learn, if possible, just what pathological, physiological, or histological changes occurred with the shrinkage process that apparently eliminated from the resection procedure its greatest potential hazard. Accordingly, an experimental study was undertaken in which seven prostates were studied microscopically. Sections were made of the tissues surrounding the urethra to a depth of one cm. designated as superficial structures and from the tissues from this depth downward into the prostate designated as deep structures. Before removing the prostate the high frequency current was applied in various combinations, both cutting and coagulating, delivered from several types of high frequency modalities. All the specimens were from actual patients who came for relief of benign prostatic hypertrophy. Resection was carried out with the usual plan, after which the prostates were removed by prostatectomy at various intervals after resection.



Prostate No. 1 is a control specimen in which no electro surgery had been applied and which was secured at autopsy, the patient died of cardiorenal disease. This specimen showed chronic inflammatory infiltration of the superficial structures and normal hyperplasia of the deep tissues.

Prostate No. 2 was also secured at autopsy. This patient succumbed to a septic sloughing process, involving the bladder neck region and adjacent tissues, eight days after resection. The superficial structures showed a destructive necrosis. The deep structures, we were surprised to note, showed no changes dissimilar to those of the control specimen.

Prostate No. 3 was removed fifteen days following electro-coagulation only. The microscopical picture simulated very closely specimen No. 2, except for a milder superficial necrosis. Again the deep structures appeared normal.

Prostate No. 4 was removed twelve hours after resection. In this case electro dehydration had been done five days previously. Microscopical study showed intensive round cell infiltration with mild hemorrhagic infiltration of the superficial tissues with practically no changes in the deep structures. This specimen was of special interest as it showed the early effects of the cutting current. Prostates 5, 6 and 7, all were specimens in which electro dehydration was applied to one-half of the prostate only, five to seven days before resection and in which the prostate was removed five to ten days after resection. With minor variations all the specimens presented a similar picture, necrosis or transitional resolution process in the superficial structures and no change in the deep structures.

After this study what did we conclude? Just this: That the principal and outstanding factor in the morbidity and mortality of prostatic resection is a reaction that sets in about the cut surface in which occurs—first, intense round cell and hemorrhagic infiltration of the superficial tissues, followed by necrosis and sloughing to which is added infection. This process is apparently confined to the superficial tissues while relatively no reaction of importance occurs in the deep structures of the prostate, with the application of the cutting procedure as used in the ordinary way for prostatic resection. Why does this sloughing occur in some cases and not in others? Our idea is that, unless some preliminary shrink-

age measure is applied, it does occur in some degree in all cases, as was evident by our cystoscopic observation which was done with deliberation in quite a large series of cases in this hospital, three to five days following resection. Our study disclosed only what occurred and not why. To form a hypothesis, one must assemble the clinical, physiological and pathological facts and assume that the cause is a matter of edematous and lymphatic engorgement of the prostate and adjacent tissues. The facts as indicated by our study are: First, preliminary shrinkage by adequate suprapubic drainage apparently corrects a condition which predisposes to necrotic sloughing at, and about, the cut area. Second, preliminary electro dehydration sets up a mild prophylactic reactionary process in which edema is carried off and undoubtedly a sealing off or reduction of the lymph spaces occurs.

We think any resectionist will recognize that the matter of drainage is the outstanding fundamental problem in resection, and we feel sure that anyone would prefer good free suprapubic drainage rather than the retention catheter. However, routine suprapubic drainage by open operation would largely defeat one of the much heralded advantages of the procedure, namely, short hospitalization. Right here, we wish to say that to our mind too much stress has been laid upon this feature for the safety of the patient, and that these cases should be approached with an open mind as in any other surgical case. Time does not permit any exhaustive discussion on this point, and we will sum up our conception of it by saying that from a preoperative standpoint two features stand out. First, the retention catheter is a foreign body in the urethra and predisposes to infection, regardless of the most meticulous asepsis. In three cases we have had most distressing periurethral abscesses. In others, symptoms of sepsis, chills, fever, etc., were promptly relieved by suprapubic drainage. Second, suprapubic drainage predisposes to shrinkage of the edematous prostate and control of infection which, as well recognized, is so important in these cases.

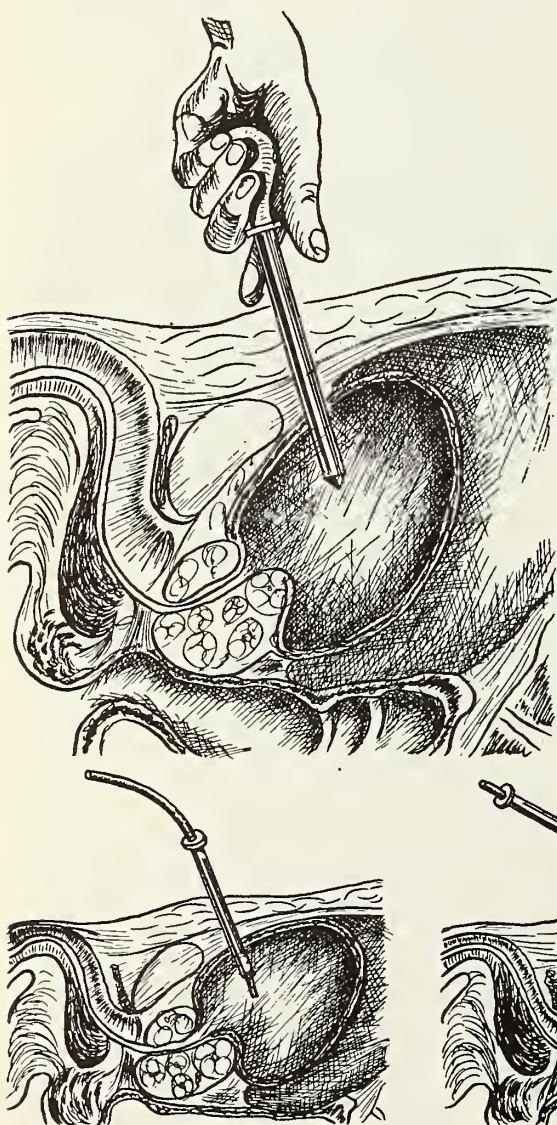
From a postoperative stand point, suprapubic drainage adds greatly to the control both of sepsis and hemorrhage. In this connection we have invoked a procedure which is at once both simple of application and effective in its results, and adds practically nothing to the length of hospitalization, namely, suprapubic

puncture by trocar, which we are now about to demonstrate.

The patient, we have before us, is a man, age sixty-six years, who entered the hospital a few days ago on account of retention of urine. His history and physical examination is indicative of the usual case of benign prostatic hypertrophy.

Dr. Stockwell, my associate, will first demonstrate the use of pantocain in spinal anesthesia. Trocar drainage is quite practical with local infiltration only, but in our cases we do a bilateral vasectomy at the same time and usually electro dehydration of the prostate,

FIGURE 2



as previously described. At the present time, we are performing trocar drainage and vasectomy in every case while doing the electro dehydration in every alternate case only, with the idea of comparing clinical results in an attempt to determine to what extent trocar drainage alone contributes to prostatic shrinkage as we have already observed with electro dehydration. With the bladder well filled the patient is placed in marked Trendelenburg position to allow the intestines to fall away from the bladder. A small incision is now made in the skin about one-half inch back of the symphysis. The trocar, through which may be passed a twenty-two F. catheter, is now thrust boldly downward and into the bladder. As the instrument enters the bladder a sudden giving way of resistance can be felt. (Fig. 2.) It is important that the trocar be pushed about two inches farther into the bladder for we must remember that the bladder is now distended and will be in collapse after the catheter is passed through the trocar and we wish to avoid the bladder pulling off the end of the catheter, which might create a hazardous situation with extravasating urine about the bladder. As we withdraw the stylet from the trocar you notice a rush of the bladder content. The catheter is now quickly passed through the trocar, till measurements previously marked on the catheter shows that the catheter end has passed out of the trocar. The trocar is now withdrawn leaving the catheter in situ. A suture is now placed through the skin closing the incision and tied about the catheter to secure firm anchorage. The patient within a few days can be up and about without the annoyance of the retention catheter until such time as his condition warrants the completion of his prostatic surgery. If his condition is such that several weeks or more time is required for preparation—and we wish to emphasize that many cases do need such preparation—he may be sent home, meanwhile escaping considerable hospital expense which, as we all know, is at the present time an important consideration.

We now come to demonstrate the procedure of removing the obstructing part of the enlarged prostate by electrical resection,



and Dr. Stockwell will again demonstrate spinal anesthesia. Our experience with spinal anesthesia over a period of about eight years, has been eminently satisfactory. We have used it in all types of cases, including various surgical procedures on the kidney, and particularly in a very large number of cases of elderly, devitalized patients with prostatic obstruction. We have not had a single fatality, and since we began the use of pantocain rather than novocaine crystals, we have hardly had a patient become nauseated. We feel that it is of distinct advantage in these cases where we wish the patient to miss as little taking of fluids and nourishment as possible after operation.

This patient, a man sixty-eight years of age, is of particular interest concerning the application of this procedure. We selected him for demonstration from among a group of several available cases because his case is illustrative of the necessity of carefully applied operative technic if we are to expect good clinical results. This man has a very large prostate and about a year ago underwent resection at another clinic. He has continued to complain of painful and frequent urination with 250 c.c. of residual urine. Cystoscopic examination discloses a marked bulging of the left lateral lobe of the prostate into the bladder neck. Technically, one should, in removing the bladder neck obstruction, maintain symmetrical cone-shape opening at the bladder neck or in other words, not remove on one side all tissue apparently necessary and then take up the other side, but rather circle about the bladder neck removing one layer of tissue, later going deeper in the same manner, if needed. In this way, if, for any reason, the operation must be terminated before one is able to remove all the tissue which he has planned to do, the chances for a clinical result are far better than if one side is left protruding, as illustrated in this gentleman's case.

As you will note the patient is wearing a suprapubic tube which has been clamped. Also about two weeks ago when this drainage was established, electrodehydration of the prostate was done while making the cystoscopic examination.

We now introduce the resectoscope and begin the removal of the obstructing portion of the prostate. You will note as it comes away, piece by piece, that there is hardly sufficient bleeding to tinge the irrigation water. Beginning at the bladder neck we remove layer by layer

using extreme caution and care as we approach the region of the verumontanum and the cut off muscle. Much better to leave some prostate in this region than to cut through the external sphincter and get a leaky bladder. We are convinced that the principle key to the clinical after-course is how the resection is done right at the bladder neck.

We now have removed eighty-five large pieces of tissue and have a good clear symmetrical opening. We place a twenty-six F. catheter in the urethra which is allowed to remain twenty-four to forty-eight hours or until we are certain no oozing or bleeding occurs. We could probably dispense with the catheter but together with the suprapubic drain it gives us a two-way safety valve. The suprapubic drainage will be removed as soon as our patient appears to have passed through any postoperative reaction, which usually is within three to four days. The suprapubic sinus will close within two to three days provided the obstruction has been properly removed. We again wish to call your attention to the anesthesia in these two cases. As you have noted the patients have had no discomfort or nausea, and have conversed agreeably with attendants during the operation.

We may well ask, has prostatic resection come to stay? Personally, we believe that it has. With the patient, it is acceptable in contrast to the reticence which previously has always been a distinct handicap in prostatic surgery. The very large number of postoperative cases now on record indicates the feasibility of the procedure, and the attendant reports indicate that the clinical results are relatively permanent. Finally, however, we are sure that owing to the technical features involved, the procedure will maintain its present popularity only in the hands of those willing to devote themselves to the most painstaking and vigilant attention to the management and technic in these cases.

—JKMS—

A so-called "miracle food" represented as a vitalizer, normalizer and slenderizer, brought a fine of \$50 to the Hollywood Diet Corp., Chicago, Ill. The product, "Stardom's Hollywood Diet," a mixture of sugar, soybean flour, cocoa and salt, was offered for the reduction of weight. Its labeling also contained references to vitamins, the presence of which, as determined by government experts, was insignificant. The directions called for the use of one teaspoonful of the mixture in place of a regular meal. A seven-ounce package sold for one dollar.—U. S. Dept. of Agriculture Bulletin, March 10.

# AGRANULOCYTOSIS: HEAVY PARENTERAL LIVER EXTRACT THERAPY

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The preponderance of evidence at present points to agranulocytosis as a syndrome of defective function of the bone marrow, especially of its leucopoietic function, probably produced by several diverse etiologic factors, some known and some unknown.<sup>1 2 3</sup> A stimulation of the leucopoietic function, as well as of the other functions of the bone marrow, by liver and its extracts, has been demonstrated by various observers since the introduction of liver as a therapeutic agent in pernicious anemia.<sup>4 5 6</sup> Upon this basis, reports of the use of liver extract in the treatment of agranulocytosis have gradually found their way into the literature.<sup>7 8 9</sup>

Murphy<sup>17</sup> stating that when used in adequate amounts it has produced the most satisfactory results yet reported. The recent increased concentration of liver extract, one cc. equivalent to 100 grams of fresh liver, makes easy the parenteral administration of large doses. The following case report is one of rapid recovery coincident with the use of heavy doses of liver extract intramuscularly.

## CASE REPORT\*

History: Mrs. E. K., widow, sixty-three years of age, five children living and well. Moderate chronic arthritis with enlargement of the finger joints for the past ten years, otherwise in very good health until a severe facial erysipelas two years ago. More stiffness and soreness in the joints since then and former strength never quite regained. Slight weakness and some exhaustion during the summer of

## Blood findings during illness:

Date	Hemoglobin	Erythrocyte Count	Leukocyte Count	Neutrophils	Lymphocytes	Mononuclears
12/3/35 A.M.	65 per cent	3,100,000	1,300	6 per cent	94 per cent	
12/3/35 P.M.			1,600			
12/4/35	65 per cent	3,100,000	1,600	4 per cent	96 per cent	
12/5/35 A.M.			2,000			
12/5/35 P.M.	63 per cent	3,000,000	2,200	20 per cent	80 per cent	
12/6/35 A.M.			3,000	35 per cent	62 per cent	3 per cent
12/6/35 P.M.			3,000			
						Reticulocytes, 1.3 per cent
12/7/35 A.M.			4,800			
12/7/35 P.M.	65 per cent	3,060,000	4,800	52 per cent	48 per cent	
12/8/35			6,000			
12/9/35			8,500	78 per cent	22 per cent	
						Reticulocytes, 1.45 per cent Platelets, 375,000 per cu. mm.
12/10/35	65 per cent	3,100,000	8,000			
12/11/35			9,000			
12/12/35			19,000	83 per cent	17 per cent	
12/13/35			9,000	73 per cent	27 per cent	
12/14/35			8,000	74 per cent	26 per cent	
12/15/35			12,400			
12/16/35	75 per cent	3,280,000	10,500			
12/19/35	70 per cent	3,400,000	8,500	70 per cent	30 per cent	
12/24/35	80 per cent	4,100,000	10,000			
12/30/35	80 per cent	4,200,000	9,000			
2/2/36	78 per cent	3,780,000	10,150	63 per cent	37 per cent	

However, Foran<sup>10</sup> and later Foran, Sheaff and Trimmer<sup>18</sup> were the first to advise the use of liver extract parenterally as a major therapeutic measure in the treatment of this disease. In their report of five cases all recovered, four remaining well, and one dying later without further use of liver extract. A few case reports have occurred in the literature<sup>12 13 14 15 16 17</sup> since then of similar therapy, some successful and some unsuccessful, although often perhaps inadequate liver dosage was used. It is to be expected that probably in some of the very acute fulminating cases, the damage to the bone marrow is so severe that no remedy will be of avail. However, there are enough favorable case reports to indicate the probable value of liver extract in the treatment of agranulocytosis,

1935. Acute follicular tonsillitis with rather high fever for five days early in September 1935. Tonsillectomy one month later followed by considerable pains over the head and scalp for three weeks. Then increasing weakness for the next ten days, probably with slight fever, and first confined to bed on November 23 with a temperature of 103 degrees. The fever continued around 102-103 degrees daily with increasing weakness and drowsiness and the patient was admitted to the hospital December 3 in a semi-stuporous condition. There was no history of the use of amidopyrine or any other drugs known to have any influence in producing an agranulocytosis.

\*I am indebted to Dr. B. C. Beal, Clearwater, for the reference of this case.



**Essential Physical Findings:** The patient was very acutely ill; temperature 103.6 degrees; pulse rate 110; semi-stuporous. The gums around the upper teeth were markedly swollen with beginning ulceration; there was a superficial area of ulceration and necrosis on the lower lip. The abdomen was moderately distended, tympanitic and tender. Spleen not palpable.

**Laboratory Findings:** Urine, negative; Widal, negative; Malta Fever agglutination, negative; blood culture, negative; Wassermann, negative; hemoglobin, sixty-five per cent; red blood count, 3,100,000; white blood count, 1,300 with ninety-four per cent lymphocytes and six per cent neutrophils; Ewald examination made later revealed eleven degrees of free acid, thirty-eight degrees of total acid.

**Treatment:** The essential treatment consisted of heavy dosage of liver extract intramuscularly, one cc. (equivalent to 100 grams of fresh liver) each three hours day and night beginning as soon as the patient entered the hospital. In three days this was reduced to each four hours; in five days, to twice daily and in ten days, was replaced by liver extract by mouth (nine capsules of extralin daily.)

**Clinical Course:** Within twenty-four hours after instituting the liver therapy, there was beginning clinical improvement, the temperature falling and reaching normal in seventy-two hours; the appetite improving; the stupor decreasing and the leucocyte count rising. The patient continued to make an uneventful recovery and was discharged from the hospital on December 31. Since going home the patient has continued to show some subacute arthritic symptoms and a temperature of 99° to 100°, although otherwise remaining well up to the present date, February 24, 1936.

#### REMARKS

The rapid recovery of a patient severely ill with agranulocytosis, coincident with the use of unusually large dosage of liver extract, prompted the above case report with the hope of stimulating the further trial of heavy dosage of liver extract, administered parenterally in cases of agranulocytosis until its value or lack of value in this disease is more definitely determined. Attention is called to the fact that liver extract in the equivalent of 100 grams of liver was administered each three hours night and day, the equivalent of 800 grams of liver per twenty-four hours.

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- \*I am indebted to Dr. B. C. Beal of Clearwater, Kansas, for the reference of this case.

#### IDIOPATHIC HYPOCHROMIC ANEMIA

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A non-macrocytic anemia of unknown origin accompanied by achlorhydria has created considerable interest among clinicians in recent years. This newly recognized type of anemia has only in the past few years been acknowledged as a distinct clinical entity. In most instances the condition was classified under the diagnosis of a secondary anemia, despite the fact that the etiology could not be determined.

The disease is characterized by the presence in middle aged women of chronic anemia, weakness, achlorhydria, glossitis and nail changes, responding in a most striking manner to adequate doses of iron.

A number of different terms have been used to describe this clinical syndrome. Among those most commonly used are: Chronic microcytic anemia (Faber),<sup>1</sup> idiopathic hypochromemia (Mills),<sup>2</sup> chronic chlorosis (Metzler & Minot),<sup>3</sup> primary hypochromic anemia (Dameshek).<sup>4</sup> The term, simple achlorhydric anemia (Witts),<sup>5</sup> (Davies),<sup>6</sup> (Haden),<sup>7</sup> has been the one most commonly used by writers

in the past but as has been pointed out by Haden,<sup>8</sup> more and more cases have been found which exhibit the typical blood findings without the absence of free hydrochloric acid in the gastric contents, that a better term for the disease would appear to be chronic idiopathic hypochromic anemia. This term is undoubtedly more descriptive since the anemia is of long standing without known cause and the chief hematologic feature is the hypochromemia.

Idiopathic hypochromic anemia is not an uncommon disease. Certainly the disease occurs more frequently than the present literature would indicate. In centers where it is commonly recognized, the incidence is reported to be higher than for that of pernicious anemia. Although death seldom results primarily from the disease, nevertheless it may be the cause for much suffering, and should receive more consideration than it has in the past. Unlike secondary anemia, this primary type of anemia must be treated permanently. Thus, it is obviously important that cases encountered be properly recognized by the profession.

#### SYMPTOMS AND SIGNS

The disease is characteristically one presenting a multiplicity of complaints. The patients consisting almost entirely of middle aged women, seek medical advice because of various reasons. The most outstanding complaint is weakness and easy fatigue. Sore mouth or tongue, nervousness, palpitation of the heart, indigestion, menorrhagia or other menstrual disturbances constitute many of the other prominent symptoms. Among the less common complaints cited are: Dyspnoea, fainting attacks, vertigo, paraesthesias, diarrhea and dysphagia. The chronic nature of the disease and the vagueness of the symptoms oftentimes places these patients in the category of the neuroses, until a blood examination reveals the real nature of the disease.

The physical examination may or may not show the presence of the anemia. In most instances some degree of pallor is evident to both the patient and the examiner. The appearance of the skin is not typical. It lacks the lemon color appearance seen in patients with pernicious anemia. Blueness of the sclera is a frequent finding and is probably best explained as due to the pallor of the blood plasma (low icterus index). The skin may exhibit early atrophic changes such as excessive dryness and premature wrinkling. In many

cases peculiar changes are noted in the nails of the fingers and toes. These changes may vary from a flattening to an actual "spooning" of the nails so that a drop of water does not roll off when placed on the nail. Frequently the nails become brittle, tender and lose their normal lusture. The tongue sometimes shows varying degrees of glossitis and atrophy of the papillae. Cases have been reported of Plummer-Vinson syndrome of dysphagia with this type of anemia. All abnormal physical findings disappear completely with treatment.

#### THE BLOOD FINDINGS

A marked reduction in hemoglobin with a relatively high red cell count is the most characteristic feature of the blood findings. The erythrocytes are nearly always reduced in size, yet the reduction in hemoglobin is always greater than the decrease in cell volume, giving a low blood color index and a hypochromia of red blood cells. The icterus index values are usually below normal indicating a decrease in bilirubin metabolism. The stained blood smear shows some microcytosis, anisocytosis and a marked pallor of the erythrocytes. Reticulocytes and platelets are usually present in normal amounts. Haden points out the almost constant finding of banana shaped red cells in this type of anemia (Fig. 1.) Normoblasts and other premature cell forms are rarely seen. The leucocytes show no important changes except for a slight reduction in number.

Among the other laboratory findings is the almost constant absence of free hydrochloric acid in the gastric secretions of these patients. Davies,<sup>9</sup> however, was able to demonstrate free acid after the use of histamine in about one-half of his series and suggests that the achlorhydria found in these cases may be functional in origin.

The bone marrow shows marked hyperplasia of the nucleated red cells which are of the normoblastic type. It seems that a disturbance in the maturation of the red cell at the normoblast stage is the mechanism in operation in idiopathic hypochromic anemia, whereas in pernicious anemia the point of disturbance is found in the megaloblastic stage.

#### CASE REPORT

The following is a case presenting typical symptoms and blood findings, considered worthy of report because of the unusually large amounts of iron required to maintain a normal blood picture.



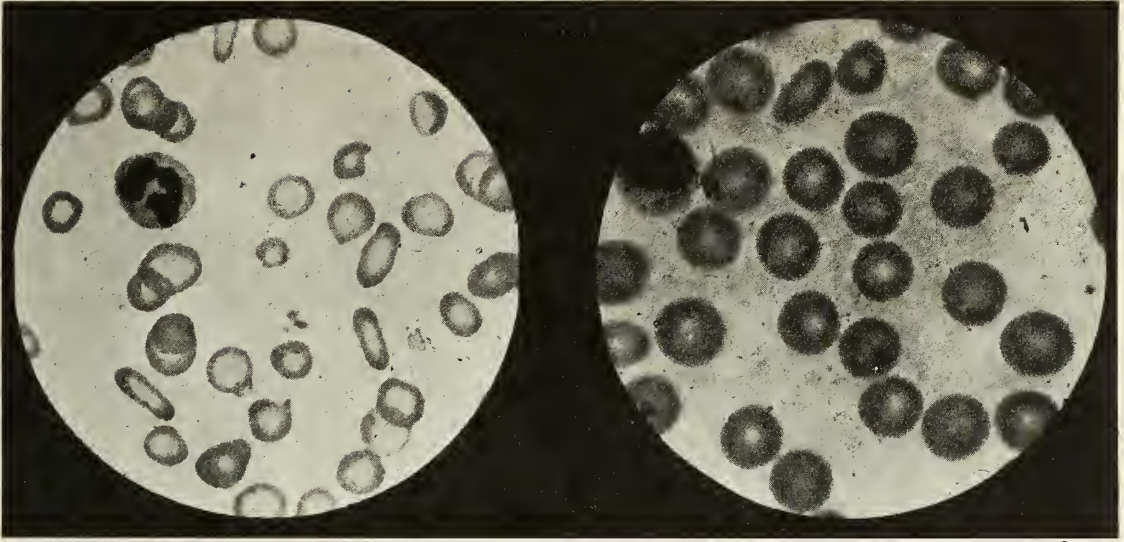


FIGURE 1

A woman, aged thirty-four, sought medical relief on December 5, 1933, because of weakness, syncopal attacks and anemia. The weakness and the attacks of fainting had been present for about four months but had become worse during a sojourn into the Rocky mountains. The attacks became so severe that a physician was consulted who found laboratory evidence of anemia. Other symptoms elicited were moderate menorrhagia, and some gaseous dyspepsia.

Physical examination showed nothing other than the pallor, blueness of the sclera, and premature wrinkling of the skin. A gastric analysis showed no free hydrochloric acid and a total acidity of fifteen. The red cell count was 4,290,000, with fifty-five per cent hemoglobin. The volume index was 0.84, and color index 0.64. The white cell count was 5,850. A diagnosis was made of idiopathic hypochromic anemia, and the patient was started on treatment consisting of dilute hydrochloric acid taken at meal time and sixty grains of ferrous carbonate (Blauds pills) daily, in divided doses. She was seen at weekly intervals until her blood had returned to normal. In three weeks time the hemoglobin had reached seventy per cent with a red cell count of 4,505,000. The blood reached a maximum level of eighty per cent hemoglobin and 4,459,000 red cells within sixteen weeks. The patient became entirely symptom free. As it was desirous to maintain the effects with a minimum amount of iron, the dosage was reduced to 30 grains a day. The blood promptly dropped to seventy-two per cent hemoglobin and 3,750,000 red cells, with

a mild relapse in the patients symptoms. The blood remained at this level for three weeks. The original sixty grains daily dose of iron was then resumed and the blood returned to its former normal level. Over two years have elapsed since the beginning of treatment and the hemoglobin has stayed at a level of around eighty-two per cent with a red cell count in excess of 4,000,000. A subsequent examination of the gastric secretions again showed an absence of free acid.

This is a fairly typical example of the blood findings in this type of anemia, with the characteristic response to treatment and the partial relapse on an inadequate maintenance dose of iron.

#### DISCUSSION

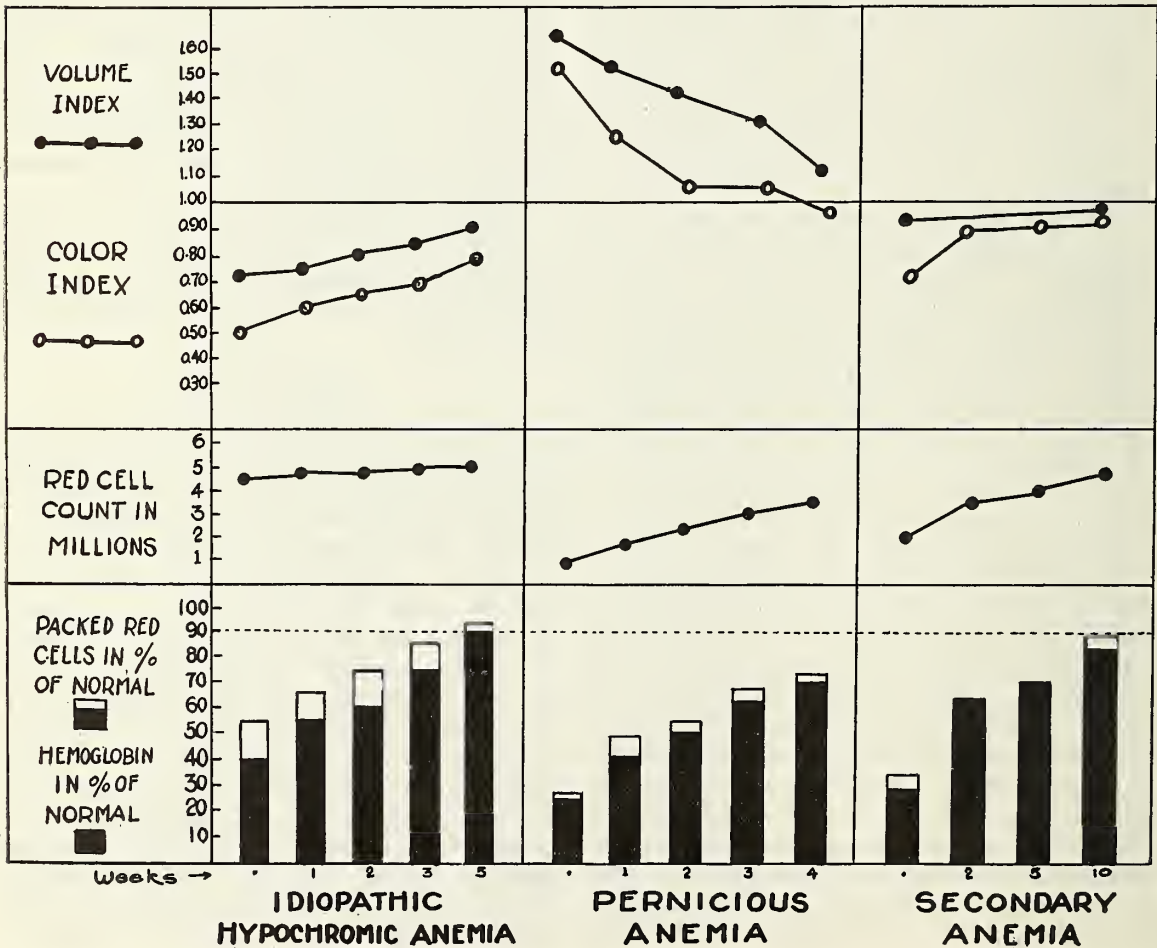
Although the primary cause of this disease is unknown, most writers are of the opinion that the anemia is due to a disturbance in the metabolism of iron. In some cases a history of iron deficiency in the diet may be obtained. However in the majority of patients with this disease, there is no history of dietary deficiency and there are many points that suggest that the condition is due to some difficulty in the absorption or utilization of iron by the body. Achlorhydria is almost a constant finding in this condition as it is in pernicious anemia and as has been pointed out by many, the achlorhydria may be indicative of some defect in the stomach resulting in the diminution of a substance in the gastric secretion that is necessary in the digestion of iron containing foods. As absence

or reduction of this element, could, by creating a state of iron deficiency in the body, produce anemia of varying degrees just as absence of the X-factor in the gastric secretions will cause pernicious anemia. Castle<sup>10</sup> has demonstrated the presence of the X-factor (Antipernicious anemia substance) in the gastric juice of patients with idiopathic hypochromic anemia. As to whether there is a direct relationship of achlorhydria to this type of anemia is a much mooted question. Everyone agrees that anemia is much more common among patients with achlorhydria than among those with normal gastric acidity. Experiments by Mettier and Minot show that iron is more readily absorbed from an acid rather than an alkaline medium, supporting the theory that achlorhydria in itself could be the factor producing the anemia. It would not seem probable for achlorhydria in itself to be responsible for the anemia. That the achlorhydria is merely an indicator of some missing substance

in the stomach necessary for normal blood formation, appears to be a more likely conception.

The similarity of idiopathic hypochromic anemia to pernicious anemia has been stressed by many writers and in the past many cases of the former have been called pernicious anemia in spite of the lack of response to treatment with liver extract. While the symptomatology of the two diseases are somewhat alike, the blood shows almost directly opposite findings. The two diseases should offer little diagnostic confusion except in an atypical or borderline case. Both diseases are definite clinical entities with, as far as is known, no tendency for the hypochromic type to change over to the macrocytic type or vice versa.

Hypochromic anemia with achlorhydria due to loss of blood, infections, or toxemias, should not be classified with the idiopathic group but should be called secondary hypochromic anemia or symptomatic achlorhydric anemia.





The differential points between idiopathic hypochromic anemia, pernicious anemia and secondary hypochromic anemia may be best presented for comparison in graphic form as represented in Figure 2.

#### TREATMENT

The disease responds to adequate iron treatment in a most spectacular manner. Doses of twenty grains of ferrous carbonate (Blauds pills) or its equivalent, three times a day, is ordinarily considered sufficient. Institution of iron therapy produces a prompt rise in reticulocytes and a rapid rise in hemoglobin levels. The increase in hemoglobin averages about one per cent a day. The blood returns to normal in every way and remains so, providing the iron is given continuously. The response to treatment is comparable to that of liver extract in pernicious anemia. Since the deficiency in absorption or utilization of iron is permanent, maintenance doses of iron in some form must be given to prevent a relapse. The maintenance dose varies with each patient but usually a daily intake of thirty grains of inorganic iron has been found sufficient. Some men prefer to give full dosage for one to two weeks out of each month, after the hemoglobin has returned to normal. Subsequent blood examinations at varying intervals is necessary to make sure the dosage is adequate. Liver extracts or secondary anemia fractions of liver have not proved of any value in the treatment of this kind of anemia.

Diet also plays an important part in the treatment of the anemia. Meats, vegetables, and fruits should be especially emphasized. Whipples<sup>11</sup> experiments on dogs, places whole liver as the most potent diet factor, with kidney ranking a close second in the production of new hemoglobin. As liver also contains stroma building material it is recommended if possible that a half pound should be eaten every day.

Dilute hydrochloric acid is indicated especially when gastro-intestinal disturbances are present but is unnecessary for blood regeneration providing large doses of iron are being consumed.

Studies of the bone marrow by repeated sternal puncture biopsy shows a return of the normoblastic marrow to normal during treatment.

All the distressing symptoms disappear with striking rapidity. The glossitis, the skin and nail changes return completely to normal. The

achlorhydria once established persists throughout treatment.

#### SUMMARY

A newly recognized type of anemia of unknown etiology is described.

Factors capable of producing the anemia are pointed out as follows: iron deficiency, achlorhydria, difficulty in the absorption or utilization of iron, absence of intrinsic hemopoietic substance in the stomach, and dietary deficiency.

A chart is presented showing the differential points in the recognition of idiopathic hypochromic anemia, pernicious anemia and secondary hypochromic anemia.

A photomicrograph illustrating the characteristic appearance of the blood before and after treatment is shown.

Specific and general measures effective in the treatment are outlined.

The symptoms, physical findings, and blood in this disease respond in striking manner to adequate iron therapy.

A case is reported that required unusually large doses of iron permanently.

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#### A. M. A. FELLOWSHIP

Attention is called to the fact that fellowship in the American Medical Association is necessary for registration at the annual meeting of the American Medical Association.

A complete explanation of fellowship requirements is contained on page 165.

## THE USE OF THE ROENTGEN RAY IN THE DIAGNOSIS OF ILEUS

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Kansas City, Kansas

That the x-ray has a definite field in the diagnosis of intestinal obstruction is widely accepted; it is important however, that the roentgenological findings be interpreted in the light of the clinical picture.

The early diagnosis of intestinal obstruction is of the utmost importance in order that the proper therapeutic measures may be instituted before marked changes have occurred in the intestinal wall or before a severe toxemia has developed. The necessity of early recognition and early relief of ileus is demonstrated by a series of cases reported by Miller. Of 343 cases, those which were operated on within the first twelve hours showed a mortality of 29.4 per cent; those operated in twenty-four hours had a mortality rate of 52.9 per cent; those operated in thirty-six hours had a mortality of fifty per cent; when operated on in forty-eight hours after the onset of symptoms the mortality rate was 59.6 per cent; within seventy-two hours 63.4 per cent; within ninety-six hours 72.8 per cent and when coming to operation ninety-six hours or more after the onset of symptoms the mortality was eighty-four per cent. In a similar series of cases reported by Brill those coming to operation within twelve hours after the onset of symptoms presented no mortality. In sixteen cases operated within twelve to twenty-four hours after onset of symptoms there was a mortality of 12.5 per cent. In eighteen cases operated within twenty-four to forty-eight hours after clinical onset the mortality was 61.1 per cent.

It is generally accepted by surgeons that early operation for the relief of intestinal obstruction is the only practical treatment of mechanical ileus. The use of the x-ray in clarifying suspected ileus has at times brought about avoidance of that period during which the chances of the patient's recovery diminishes with the increasing clarity of the diagnosis. On the other hand, in cases where the diagnosis of obstruction was seriously considered, but where the roentgenological signs necessary for the diagnosis of mechanical obstruction were absent, it has resulted in the avoidance of unnecessary exploration. Another important

virtue of the method is, that by enabling us to differentiate between obstruction of the colon and of the small bowel it has made it possible for us to determine pre-operatively upon the type of procedure which would give relief with minimal shock and manipulation.

Of greatest importance as concerns the diagnosis of ileus is the history which is usually quite typical and characteristic. The history of pain, which is intermittent and colicky in type, associated with varying degrees of abdominal distention and with obstipation, is very suggestive of either adynamic or mechanical obstruction. Much more difficult, however, is the diagnosis of ileus developing postoperatively, which may be either of the adynamic or mechanical variety. Here, because of the operative trauma, it is difficult to evaluate the symptoms and signs presented by the patient. Any additional diagnostic procedure in these, or other types of cases in which the diagnosis may be obscure, is of distinct value.

Intestinal obstruction may be produced by numerous factors which are generally considered under the following types:

**Adynamic obstruction:** A condition of stasis of the gut from some external or toxic cause. This condition is also known as paralytic ileus.

**Angiomesenteric:** A condition where dilatation of the stomach and duodenum is produced as a result of arteriomesenteric bands.

**Chronic duodenal obstruction:** A compression of the third part of the duodenum by the mesentery with a resultant dilatation of the duodenum and the production of chronic dyspepsia.

**Duplex obstruction:** A condition produced by and resulting from inflammatory enterocolitis.

**Hyperdynamic obstruction:** That produced as a consequence of tonic contractions of the muscular fibers of the gut wall.

**Subparta:** Obstruction resulting from pressure of the gravid uterus on the pelvic colon.

**Mechanical obstruction:** A result of mechanical blocking of the lumen of the intestine. This type is the class of obstructions that concerns the surgeon and the one for which therapy is most readily instituted. This class of obstructions may be further subdivided into: those due to developmental defects, inflammatory reactions within the peritoneal cavity, and neoplasm.

Under developmental defects come: first, the obstructions of early infancy due to im-

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perfect development of the digestive tract; as for example, atresias and other anomalies of this class; and second, the obstructions coming later in life as a result of developmental defects within the abdominal cavity, such as Meckel's diverticulum, remnants of the urachus, the appendix, congenital bands, ileocecal anomalies, mesenteric cysts, ectopic spleen, and so forth. The large group of obstructions from hernias must also be considered as resulting from developmental defects.

Inflammatory reactions may result not only from the action of bacterial agents within the peritoneal cavity, but also from mechanical injury, usually incidental to abdominal surgery. Inflammation, whether bacterial or mechanical may lead to the formation of bands, adhesions, internal hernias and bacterial action forming inflammatory lymph glands.

The diagnosis of intestinal obstruction by means of x-ray is not a new procedure. The recognition of positive densities created by the gas filled loops of bowel was described as early as 1911, when Schwartz advocated the administration of a small amount of barium sulphate suspension for the production of fluid levels and emphasized that the erect position of the patient be used in order that the fluid levels might be demonstrated. Assman in 1913 reported five cases proved at post-mortem to be obstruction which had shown both gas and fluid levels by roentgen examination. Case did pioneer work along this line in America, beginning his work in 1910, and later in 1915 publishing a paper stressing the characteristic parallel loops of the distended bowel. Later, particularly in his publication of 1927, he added the finer points of diagnosis such as the "herring bone" appearance of the mildly distended loops of bowel as compared to the "ladder" effect of the greatly distended loops. He also described the fluid levels discernable in the various positions. Wangsteen and Lynch were apparently the first to study the roentgenological manifestations in experimentally produced ileus. They produced mechanical obstruction in dogs and observed its course radiographically. They found that gas in the obstructed intestine could be detected on the x-ray film in from four to five hours after the production of the obstruction and that clinical distention was not evident until many hours later.

Kantor and Marks, in discussing the origin of intestinal gases, stated that they are derived

from two sources; namely, from the atmospheric air and from the food stuffs. Atmospheric air is swallowed during eating and drinking and the greater part is quickly eliminated by belching. The nitrogen, which composes eighty per cent of the volume is not absorbed by the blood stream and the oxygen, which composes twenty per cent is only slightly absorbed. An enormous amount of gas originates from the food stuffs during digestion in the upper part of the gastro-intestinal tract and from the decomposition of sugars by bacterial action in the lower part of the intestine. It has been shown that under normal conditions, intestinal gas is eliminated by way of the blood stream, only a small portion being expelled. In intestinal obstruction the normal pathways of elimination are either partially or completely blocked. Not only is the mechanism of expulsion impaired but, as Ochsner and Granger point out, absorption into the blood stream is interfered with as well, for there is always some interference with the blood supply of the intestine, although it may be at times intramural, as seen when the gut is markedly distended. In such a condition the distention causes pressure on the capillaries of the intestinal wall and the greater the distention the more the capillary occlusion. Pressure of the contents of the intestine as a result of the block may also lead to pressure on the larger vessels contained within the mesentery. Coincident with the foregoing processes there is an active diffusion of gases and secretion of fluids from the blood stream into the bowel lumen. Morton and Sullivan showed experimentally that the secretion of fluid into the bowel is greatly increased as the duration of the obstruction increases. To summarize, it can be stated that with the stagnation of the normal intestinal content and its decomposition, with the impairment of absorption and with the increase of secretory power of the intestine, there is produced a gas distended bowel containing fluid proximal to the point of obstruction.

In the roentgen ray diagnosis of acute ileus it is obvious that the administration of a contrast media by mouth is contraindicated for such procedure has been known to convert a partial into a complete obstruction in cases of suspected ileus. The use of contrast media in recognized partial obstruction of long standing, however, is not to be deprecated. In the acute variety, or in suspected ileus only plain roentgenograms should be obtained.

The value of plain roentgenograms consists in the visualization of accumulated gas, or gas and fluid proximal to the point of the obstruction. Although many workers believe that normally gas is present in the stomach and large bowel only, it has been shown that gas can be demonstrated in the small bowel shortly after operation in many cases, and from this one can conclude that the post-operative diagnosis of ileus must be made with the utmost care. Gas has also been seen in x-ray examination of cases where, for some reason or another, there is a decrease in the motility of the intestine. In such cases, however, only small amounts are observed and the condition is to be differentiated from ileus by the slight, if any clinical evidence and distention, the absence of the observed gas shadow in more than 2.5 to three inches above the observed portion of the gut, and the transient character of the shadows. Such statements apply to adults only for it is not uncommon to see distended loops of intestine in children up to the age of two years.

The detection of fluid levels, which at times can be visualized in the obstructed intestine, is particularly important in the roentgenographic diagnosis. It must be remembered in this connection, however, that too implicit faith must not be placed on the detection of fluid levels alone for they have been seen in patients, with renal colic and similar diseases, who were subjected to appendectomy because of a similar attack. In order to visualize fluid levels, i.e., the junction between the fluid below and the gas above, it is necessary to obtain the picture by placing the patient, the x-ray plate, and the tube in such positions that the rays will parallel the surface of the fluid contained within the intestine. This is accomplished by antero-posterior roentgenograms with the patient in the upright position (sitting or standing) or with the patient lying on one side or the other to obtain lateral roentgenograms. Gas accumulation alone can be demonstrated on an antero-posterior roentgenogram with the patient in the supine position. The advantage of the former method is that the contrast between the gas and fluid gives a definite picture. The advantage of the latter is that the usual technique need not be varied.

An x-ray picture of the abdomen, taken without contrast media has been found by Ginsburg particularly helpful in making a differential diagnosis where obstructive symptoms have appeared in a patient who has had a

previous abdominal operation, and where the diagnosis might well be, therefore, obstruction from adhesive bands. If, in these patients, the x-ray shows dilated loops of small intestine with the absence of gas in the colon a diagnosis of mechanical obstruction is emphatically suggested; if on the contrary, gas can be demonstrated in the colon this diagnosis must be strongly questioned. Ten of his patients entering the clinic with symptoms suggesting ileus, all of whom had had abdominal operations, were later shown to have such diseases as neurosyphilis, uremia, renal colic, coronary occlusion, etc. The x-ray is useful in ruling out the question of intestinal obstruction.

X-ray is also useful in the differentiation of functional and mechanical obstruction. If gas can be demonstrated in both the large and small bowel, the obstruction is probably functional, the reverse, is not always true however. It has been stated that functional ileus as a result of peritonitis can sometimes be determined by the greater thickness of the gut wall due to its fibrinous coat. The clinical evidence must be correlated in all such cases.

Of even greater value, however, is the ability to determine the level of obstruction by means of the roentgen ray. Though many writers have emphasized the appearance of the "herring bone" and "ladder" effects of the distended parallel loops of intestine and the striated appearance of the mucosal folds (so called valvulae conniventes) together with the fluid levels, few have called attention to the aid they give in determining the level of the obstruction. The character of the shadow of the distended intestine, its location on the film and the extent of the distended loops are of diagnostic criteria, which when correlated with the history and physical findings, will determine the level of the obstruction with a fair degree of accuracy in the majority of cases. It is interesting to note that the transition between the characteristic appearance of the jejunum and ileum is fairly abrupt. The change is not so gradual that it cannot be used as a point in determining the level of the obstruction. The point of occlusion can usually be located in one of four levels, namely (1) jejunum (2) upper portion of the ileum (3) lower portion of the ileum and (4) large bowel. The distended loops of small intestine are usually seen in the upper left quadrant or at least in the two upper quadrants, when the obstruction is high, the shadows appearing progressively lower down



and to the right as the level of the obstruction lowers until the distention becomes generalized at which time a low obstruction exists. Further, with the point of occlusion in the large bowel, the added shadows of the dilated colon are seen proximal to the level, as a general rule at the periphery of the abdomen.

Using the above criteria all the cases of ileus seen at the Presbyterian hospital of New York in the three years up to and including 1932, were reviewed to see if the x-ray had been of any value in the diagnosis and to determine if the level of the obstruction had been, or could have been localized with any degree of accuracy, from roentgenological findings alone. Operative findings were correlated with the roentgen observations. The surgeon, in a few cases could not localize the exact point of the obstruction, a notation of "dilated loops of jejunum or ileum" being made only. In this review it was noted that there was a striking absence of clinical distention in the majority of cases, although the roentgenographic signs were definite. Forty-nine per cent of the cases showed absolutely no clinical signs of distention, while 23.6 per cent showed only mild distention. Nine per cent showed a characteristic marked distention. Only forty per cent showed a typical continuous projectile vomiting, the remainder showing a variable degree. The most frequent site of the obstruction was found in the lower portion of the ileum, constituting 54.5 per cent of all the cases. The next in frequency was the lower portion of the colon, these being 18.1 per cent. The remainder, 27.4 per cent were high obstructions at variable levels.

A barium enema may be used in certain cases in which the differentiation of dilated loops of small intestine from that of the large bowel is difficult. Barium outlining the colon will serve to prove that the distention involves the small or the large intestine only as the case may be.

#### SUMMARY

In experimental work on dogs by Alton Ochsner of New Orleans, Paul C. Swenson and James S. Hibbard of New York it was found that gaseous distention of the bowel could be detected roentgenographically to be present on an average of three to three and one half hours following acute high obstruction. Ochsner determined that gas could be detected by x-ray as early as one hour after the onset proximal to the obstruction of the small gut and distal to

the obstruction of the large bowel.

In low obstruction it was found that gas accumulated proximal to the obstruction in quantities sufficient to be demonstrated by x-ray in about the same time, namely, three to 3.5 hours.

The earliest roentgenological evidence of obstruction is the accumulation of gas proximal to the point of obstruction and gaseous distention of the obstructed loops of gut is always more marked than the accumulation of fluid. It was also found that fluid levels were demonstrable, even tho the intestine contained only a small amount of fluid, in approximately three to four hours after the appearance of gas. The accumulation of gas and fluid was more marked in strangulated obstructions than in simple obstruction, and more marked the lower the site of the obstruction.

The time interval between the appearance of gas and fluid levels was found to be approximately the same in both high and low obstruction.

Roentgenographic findings are evident before clinical findings are definite.

The abrupt disappearance of the striated appearance of the jejunum as it approaches the ileum is a valuable aid in the determination of the level of the obstruction.

The majority of abdomens, after operation will show a certain degree of ileus even tho the clinical findings are not alarming.

The barium sulphate meal is inadvisable if acute intestinal obstruction is suspected and is unnecessary for the diagnosis of the condition.

The barium enema is of great value in cases where the obstruction is suspected to be large bowel, it thus serves as a means of differentiating between distended loops of small intestine and distended large bowel.

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## PRESIDENT'S PAGE

To the Members of the Kansas Medical Society:

The American Medical Association meeting to be held in Kansas City, Missouri, during May will present an unusual opportunity for Kansas medicine.

Not only are the meetings of that organization the greatest of all medical meetings but this particular one represents the first ever held adjacent and easily accessible to Kansas. Likewise, Kansas as a co-host has assisted and will participate in many events of the program.

Some of the general arrangements are as follows: The Kansas and Missouri state medical societies will sponsor a complimentary dinner in honor of the officers and delegates of the Association at the Muehlbach Hotel, 6:30 P. M., on May 11; the House of Delegates will convene for its first session on the afternoon of May 11; the opening general session is to be held in the arena of the Municipal Auditorium, 8:00 P. M., on May 12; the annual board of trustees luncheon for officers and delegates will be held at the Muehlbach Hotel on May 12; the reception for the President of the Association is to be given at the Muehlbach Hotel on May 14; the American Medical Golfing Association banquet will be at the Mission Hills Country Club on May 11; fraternity and school luncheons and dinners are scheduled throughout the meeting; the Woman's Auxiliary Bring-Your-Husband dinner is to be held at the Baltimore Hotel on May 14; and meetings of the Medical Women's National Association are to commence on May 10.

The section and assembly scientific programs, which are to be announced in the April 11 issue of The Journal of the American Medical Association, will as usual be all-inclusive.

Everyone who has attended an American Medical Association meeting knows that there is no professional convention which is comparable to its many and varied presentations, its numerous scientific and commercial exhibits and its general magnitude of events. Whether or not you have attended previously, you will find the Kansas City meeting a worthwhile investment.

H. L. Snyder, M.D.



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## EDITORIAL

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### THE DOCTOR AND HIS WORK

The only advertising permitted by medical ethics is through good work done. There are many doctors doing excellent work who remain in obscurity because of their lack of qualification in expression. The ability to do good work is one thing and the ability to call legitimate attention to it is quite another thing. The physician who would gain stature in his profession should practice writing and speaking upon medical subjects in which he is interested. The value of his work will be judged by his colleagues, editors of medical journals, and the profession at large. While the doctor should advertise his work he should not advertise himself. Seeking publicity in various ways is a weakness that is some times censured in medical councils, but usually it is not. His associates always recognize it but "even his best friends don't tell him." It is however of vital importance for doctors to go before lay audiences to present such subjects as cancer, tuberculosis, and other matters of public health, when this is done under the direction or by permission of the public relations committee of the county medical society. This should be an educational policy carried out by program. Doctors have a responsibility as teachers. To their profession they owe the expression of their own work and to the public the expression of medical science in matters pertaining to the cause, prevention, and cure of disease.

### IMPRESSIONS

The attitude of the medical profession toward different newspapers is, in a great measure, influenced by the way in which the newspapers reflect their attitude toward the medical profession in reporting news. The following two clippings may be taken for example. The news item, from the Associated Press, is the same.

In the headings are the expressions of the different attitudes of two newspapers of wide circulation in Kansas.

### SURGEON'S HEROISM IN VAIN

#### Crane Operator Dies After Amputation From 50-Foot Ladder

(From the Associated Press.)

Lowell, Mass., Feb. 25.—John McCoy, 47-year-old crane operator, whose right arm was amputated by a surgeon using a mechanic's hacksaw, perched fifty feet up in the air on a ladder, died tonight in St. Joseph's hospital. McCoy was trapped on the crane when a girder collapsed and pinned his arm beneath it.

### HACKSAW SURGERY KILLS

#### Crane Operator, Arm Amputated While Pinned 50 Feet up, Dies.

Lowell, Mass., Feb. 25.—(A. P.)—John McCoy, 47, crane operator, whose right arm was amputated by a surgeon using a mechanic's hacksaw 50 feet in the air, died tonight in St. Joseph's hospital.

### CANCER CONTROL PROGRAM

The interest demonstrated in the Cancer Control Program indicates that the event was a most successful undertaking. In fact, projects of this kind would seem to be worthy of repetition in future years.

The only regrettable feature of the program was the fact that Dr. F. L. Rector could not attend by reason of his convalescence from a recent emergency operation.

The Society as a whole owes a great deal to the Committee on Control of Cancer, for its efficient handling of the event; to Dr. Charles F. Geschickter and Dr. Burton T. Simpson for their willingness to attend and share their exceptional information on the subject of cancer; to the six county medical societies who rendered valuable assistance as hosts for the meetings; and to the radio stations and newspapers which

cooperated to the fullest extent in giving gratuitous publicity.

## In Memoriam\*

Fifty years ago, when a small boy, I first heard of Doctor Wiley. He was an institution in this section of the country even then. For thirty-four years it has been my privilege to be his colleague—for ten years a next door neighbor both as to office and residence. During all of this time, not a single thing has come between us to mar a perfect association. This is a remarkable statement when one considers the fierce competition in business and the professions.

Doctor Wiley, more than most physicians of my acquaintance, disregarded the financial angle of the profession. I have known him to labor long and faithfully over the wife of a man with twelve or more children with absolutely no hope of a financial reward, even writing to his specialist friends in Kansas City and elsewhere describing the case and asking their advice.

Up to the time when hospitals and specialists were to be found everywhere, Doctor Wiley was much sought after as a consultant. He was an able diagnostician giving his best for the benefit of the patient and always fair to the attending physicians.

Doctor Wiley did not disparage his competitors with faint praise or a shrug—he was too big for such littleness. He has been prominent in medical society circles for nearly half a century.

The first record of a Wilson County Medical Society, in the old secretary book, is dated January 8, 1889. The members present at that meeting were: Doctors Willets, Wiley, Perkins, Flack, Burch, Somers, Marshman, Camp-

field and Allen. All have now passed on except Doctor Flack. Doctor Wiley was secretary at this meeting. For many years, this society carried on with Doctor Wiley in the leading role. The last meeting of the old society was May 19, 1897 for the purpose of examining J. E. Plumer as to his qualifications to practice medicine. There were four examiners and they received five dollars which gave each examiner a dollar and a quarter for making this examination.

There was no Medical Practice Act in Kansas until 1901 and the county medical society passed on qualifications. On April 28, 1903, a meeting was called of the physicians in Wilson county to meet at Doctor Wiley's office for the purpose of organizing a county medical society resulting in the organization of the present society. Doctor Wiley was elected treasurer at this meeting and president in December 1903 and has served several times since as president the last time being in 1933; he was made delegate many times to the state society meeting. Since its organization, Doctor Wiley has missed very few meetings except when out of town. He has been a tower of strength to our society; his wise council often sought. If a situation required diplomacy, tact, firmness—we turned to Doctor Wiley.

I will miss him. He has traveled with me many hundreds of miles to medical society meetings. He was always anxious and willing to go if it were possible. Our last trip was to the Southeast Kansas Medical Society meeting which was held in Parsons in December.

Few, if any men, have rounded out a more full or useful life than has Doctor Wiley. A few years ago when everyone seemed to be perfectly healthy, I was prophesying dire things and remarked to him how dull things looked for at least one disciple of Esculapius and this was his remark: "Oh, when I am busy, I am glad I am making money, when I am not busy I am glad I am having a rest." Wasn't he a philosopher?

For a number of years, Doctor Wiley, Doctor Flack, Mr. Edmundson and myself have played

\*A tribute presented by Dr. E. C. Duncan, Fredonia, at the funeral of Dr. Frank M. Wiley in Fredonia on March 14, 1936.



golf in summer about five to six a.m. and in the spring and fall usually at noon. Doctor Wiley was an enthusiastic golfer. He had good days when he was good and bad days when he was not so good. Several years ago on Doctor's birthday, our foursome was playing. Doctor Flack, who shoots a mean ball, cornered Mr. Edmundson and myself and we agreed to just let—let mind you—Doctor Wiley beat us because it was his birthday. He teed off, made the first hole in par and we were never even in sight of him and we all played our best. We told him the joke and had many a chuckle in months to come. In summer, we would get up before daylight and many a morning I would be almost too lazy to play at that early hour but glancing over at Doctor Wiley's house, I would see his kitchen lights on and I would know that my old friend was brewing himself a cup of coffee, then—not to be out done—I would follow suit. Many times in the future I'll look for that light.

Doctor Wiley's interests were varied. His life touched the lives of many groups, Kiwanians, Walking Club, medical societies, church and politics. He was local surgeon for fifty years for the Missouri Pacific Railroad and was, at the time of his death, a member emeritus of the hospital staff of that railroad. He keenly regretted his inability to attend the staff meeting in January in Omaha. He was coroner for over fifty years, pension examiner for fifty years—yes—Doctor Wiley was truly a strong man and a man any community could be proud of. I feel that I have expressed poorly the things that I wished to convey. Recently Mrs. Duncan and I were talking about how many friends, real friends, we had. I remarked—well I nominate Doctor Wiley number one—that tells the story.

Doctor Wiley, physically you are gone but your memory is forever enshrined in our hearts.

The following excerpt from a poem by Tennyson expresses Dr. Wiley's philosophy:

"Sunset and evening star,  
"And one clear call for me.

"And may there be no moaning of the Bar,  
"When I put out to sea.

"Twilight and evening bell,

"And after that the dark!

"And may there be no sadness of farewell,  
"When I embark."

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## LABORATORY

Edited by J. L. Lattimore, M.D.

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### SUGAR TOLERANCE

J. L. LATTIMORE, M.D.

Topeka, Kansas

The glucose tolerance test is most valuable in the diabetic, when the fasting blood sugar is either normal or approximately normal. The test should be used only for diagnosis, therefore should not be confused with the ability of the patient to oxidize carbohydrates. There are at present, two methods of doing the glucose tolerance test. The most common and the one that has been used for many years, is, where the patient is given 100 grams of glucose. This administration may often be injurious to the diabetic, if the fasting blood sugar is high.

To definitely state the upper limits of a normal blood sugar is a very difficult thing and this is the reason that the sugar tolerance test is used. We consider the normal to be 80 to 120 milligrams (.08 per cent—.120 per cent) per 100 c.c. of blood. The clinical case presenting a blood sugar of between .120 per cent and .175 per cent, is very questionably a true diabetes.

At present, the more commonly used test is done when the patient has been without food for ten or more hours, which requires that the test be done in the morning. To start the test, specimens of blood and urine are collected, then 100 grams of glucose in fifty per cent solution (flavored with lemon juice if desired) is given. Specimens of blood and urine are then collected at the end of each hour, for the next three hours. If the blood sugar has returned to normal at the end of the first two hours, the third specimen is not examined. The highest blood sugar level is reached in

thirty minutes and at the end of the first hour the sugar level will reach about fifty to one hundred mgm. above the fasting. Sugar will usually be present in the first urine specimen after glucose administration. In the normal individual, the blood sugar will return to the fasting level at the end of the second hour and no sugar will be present in the urine. A diabetic patient will not return to normal at the second hour but will continue with a reading above the fasting level for three, four or even more hours.

Exton's<sup>1</sup> more recent test shortens the time and is as satisfactory, if not more so, than the older test, above described. With the patient fasting, blood and urine specimens are collected, then fifty grams of glucose, dissolved in 325 c.c. of water (flavored with lemon juice) are given. At the end of thirty minutes, blood and urine are collected and a second dose, same as the first, is given. At the end of another thirty minutes, other specimens of blood and urine are collected. This completes the time necessary for the test and shortens the time from three to four hours to one hour. A normal (non-diabetic) patient will show a rise in sugar not to exceed seventy-five mgm. in the first thirty minute period and will return to or below the fasting level in a second thirty minute period. In the diabetic, the sugar will increase from fifty to one hundred and fifty mgm. in the first thirty minute period and will go even higher in the second thirty minutes, compared to the decline in the normal patient in this second period.

Although of very definite value, the glucose tolerance test is not infallible. Joslin<sup>2</sup> states "Food tolerance tests and particularly glucose tolerance tests are often fallacious." Joslin further states "The previous diet of the subject is a definite factor." Sweeney<sup>3</sup> states "Diet prior to glucose tolerance (two days) has no effect on glucose tolerance and high carbohydrate diets increase tolerance." It is claimed that the Exton method is more dependable because it requires less time and it is thought that extended time causes erroneous findings in some cases.

We have compared several micro methods with the standard Folin-Wu technic and find that there is less than five per cent variation. As a rule, I would recommend the standard method. However, there are factors in favor of the micro method as patients prefer the finger stick and some patients are very hard

to bleed from the vein. No doubt some of the variation is due to the fact that arterial blood in the normal contains more sugar than the venous blood.

The threshold point is the lowest blood sugar level at which sugar is excreted in the urine. In the average patient the threshold is about 185 mgm. thus a patient would have to show a blood sugar above 185 mgm. before sugar would be present in the urine. As a rule the threshold point, once established in an individual, does not vary. Some variations of this will be discussed below. I have observed a patient with a constant threshold point of 350 mgm. and she has had several diabetic coma attacks, with no sugar showing in the urine. It is more common to find a low threshold than a high one, and a rather common finding is one of 115 or 125 mgm., the patient showing sugar in the urine, yet a normal blood sugar and a non-diabetic tolerance.

Other clinical conditions in which the sugar tolerance is of value are certain endocrine diseases, renal diabetes, pregnancy, hyperinulinism and certain liver conditions.

Hyperthyroidism and acromegaly give sugar tolerance curves resembling diabetes, but somewhat lower figures. The threshold point is usually altered to a lower figure, resulting in glycosuria with the ingestion of relative small amounts of carbohydrates.

Myxedema, Addisons disease and hypopituitary show a rather low tolerance curve, but the threshold point, rises whereby rather large amounts of carbohydrates may be ingested with no sugar appearing in the urine.

In renal diabetes the sugar tolerance curve is low, usually under 150 mgm. The threshold point is very low showing sugar in the urine. It is a comparatively easy matter to prove the diagnosis in renal diabetes with the sugar tolerance curve.

The same type of curve and urine finding are found in pregnancy as in renal diabetes. The sugar reaction is due to lactose and aside from the sugar tolerance test, the diagnosis can be determined with ordinary fermentation tests.

The value of the sugar tolerance test in liver diseases is not well established except in extensive liver damage where there is a hypoglycemia. By the time that information of value can be obtained from the tolerance test in a liver case, the extensive pathological changes and clinical picture are so well marked that



it is not necessary or helpful to obtain other information for diagnosis.

The occasional case of pentosuria encountered is usually alimentary and temporary, and is due to the ingestion of large amounts of pentose rich fruits. It is not necessary to resort to sugar tolerance tests in these cases as the diagnosis can be made from the history and repeated urinalysis.

In hypoglycemia, due to tumors or other pathological lesions of the pancreas which stimulate it to over production of insulin, the sugar tolerance curve shows a very marked increase in the sugar very soon after ingestion, even earlier than the first thirty minutes. The decline is also very abrupt and precedes the decline in the normal. In cases of this type, blood sugars should be taken at twenty minute intervals. The value of the test in these cases is limited to a certain degree. There appear to be various factors, but the most important is the fact that the pancreatic manufacturer of insulin also varies to a considerable extent, so repeated tolerance tests are necessary.

Schmidt, Eastland and Burns<sup>4</sup> have reported sugar curves in acute infections, simulating the diabetic curve.

Numerous reports have been given of the psychic factor and its influence on the sugar tolerance test. In some cases, a non-diabetic so resembling the diabetic curve, that a mistaken diagnosis was made. No doubt the Exton shorter method is preferable in this type of case.

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—JKMS—

Malaria Deaths.—Officers of the Metropolitan Life Insurance Company are reported to have estimated that there are ninety thousand persons suffering with malaria in the United States.

Dr. L. L. Williams of the United States Public Health Service, is quoted in Science as believing that this estimate is too low. Malaria accounted for 4520 deaths in the United States in 1934, which is regarded as indicative of the figures cited.—*New England Journal of Medicine.*

—JKMS—

Employ your time improving yourself by other men's documents; so shall you come easily by what others have labored hard for.—Socrates.

## MEDICAL SCHOOL CLINIC

### VAGINAL HYSTERECTOMY FOR RECURRENT PROLAPSE OF THE UTERUS\*

MAURICE A. WALKER, M.D.  
and  
LAWRENCE E. GROWNEY, M.D.  
Kansas City, Kansas

A married woman, aged forty-two, developed "falling of the womb" soon after the birth of her first child in 1919; this became worse after a second pregnancy in 1921. In 1924 she was operated on by a surgeon who has since died. The hospital record states that the cervix and perineum were repaired; through an abdominal incision, the appendix was removed and the round ligaments shortened. She did not become pregnant again. It was necessary for her to do hard physical work. Prolapse recurred in 1926, about two years after the operation.

When she was examined by us on January 1, 1936, the cervix protruded two inches outside the vagina when she strained. A considerable cystocele and moderate rectocele were present. The uterus was lying vertically; the fundus was movable and could be felt through the abdominal wall, about one-third of the distance between the symphysis and the umbilicus.

On January 25, a vaginal hysterectomy of the Mayo type was done; the broad ligaments were sutured to each other to make a hammock, and fastened forward against the pubic bones to hold the bladder up. The uterus measured seven by two by one inches, most of the enlargement being due to elongation of the cervix. Inspection of the pelvic ligaments during the operation, and examination of the uterus and its attached ligaments after removal, indicated that the previous laparotomy had consisted of suturing the round ligaments into a loop on each side, with each limb about two centimeters long. A perineorrhaphy was done, bringing the levator ani muscles together high posteriorly. At the close of the operation the vagina was horizontal; it accommodated two fingers snugly to their full length, and a firm

\*From the Department of Surgery, University of Kansas School of Medicine.

perineal body was present.

#### COMMENT

Normally, the uterus is anteverted so that it lies at about a right angle to a nearly horizontal vaginal canal. For prolapse to occur, the axis of the uterus must coincide with the axis of the vagina. The cervix then lies as does a piston in a cylinder, and the intra-abdominal pressure can force it outward. This condition may be present when the fundus of the uterus lies posteriorly, as in retroversion, or when the axis of the vagina is changed from horizontal to vertical as a result of laceration of the perineum by childbirth.

Therefore, in the surgical treatment of prolapse the causes must be satisfactorily corrected. In the previous operation on our patient, the shortening of the round ligaments apparently had not held the fundus of the uterus forward permanently, and the perineum had not been adequately repaired. The Baldy-Webster type of hysteropexy, with suture of the round ligaments to the posterior surface of the uterus, usually holds the fundus forward satisfactorily. In this patient, however, this probably would not have cured the prolapse of the elongated cervix. In a younger woman, desirous of having more children, the cervix might have been amputated and the Baldy-Webster operation done. Since our patient was approaching the menopause, a more satisfactory procedure seemed to be the vaginal removal of the enlarged uterus.

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## TUBERCULOSIS ABSTRACTS

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### URGING EARLY DIAGNOSIS

The founders of the tuberculosis movement realized that only through broad education of the public could any progress against tuberculosis be made. The new discoveries of Koch, Naegeli, Pirquet and others, the promising results of Trudeau's method of treatment, the pioneering activities of Biggs, inspired hope that the disease which had resisted medical science so long could be curbed. Yet this could be accomplished only with the understanding support of the people. They must know that tuberculosis is curable and preventable, that it

is not a stigma, and that facilities for diagnosis and treatment must be liberally provided. Wisely the founders chose as the motive power of the new movement, public education. In the early days the exhibit and the lecture were the chief means of arousing public sentiment. Later the press, printed matter and motion pictures were added. Today practically every avenue of reaching the attention of the masses is used.

Each year tuberculosis associations select a certain theme which all associations are urged to emphasize during that year. Printed matter and publicity aids are produced in advance. To make a definite impact the "release date" is set for April 1. Early diagnosis was the subject of the first of these campaigns hence it was called "Early Diagnosis Campaign," a label which has stuck even though subsequent themes were on other aspects of tuberculosis control.

This year the slogan is "Fight Tuberculosis with Modern Weapons." The two objectives aimed for are (a) to remind people of the early symptoms of tuberculosis and the importance of consulting the doctor on their appearance, (b) to arouse interest in the routine search for early tuberculosis before there are symptoms and physical signs.

To achieve the former, booklets, articles and outlines for talks have been prepared calling attention to the four most common symptoms of early tuberculosis, (as determined by surveys of large numbers of sanatorium patients), namely, fatigue, loss of weight, cough that hangs on and indigestion. Blood spitting, pleuritic pain and other symptoms are also mentioned. It is carefully explained that none of these symptoms is pathognomonic, but that any of them should be considered as a danger signal to be investigated by the physician. An effort is made to create appreciation for the x-ray. In all the educational material care is exercised not to cause undue alarm.

The second objective sought is to encourage routine search for symptomless tuberculosis among groups of young people such as high school and college students. What is the justification for advocating this new departure?

Tuberculosis sanatorium statistics indicate that the ratio of "early cases" admitted has not increased appreciably during the past ten years. This in spite of years of earnest effort to urge people to obtain medical advice on the appearance of the early symptoms enumerated above. Many conscientious doctors constantly on the



alert for tuberculosis have despaired of increasing their batting average of discovering the disease in its incipency. The reason for that failure cannot be blamed entirely on the apathy of patients nor on the lack of vigilance of doctors. It is to be accounted for in part by the fact that the transition from "early" or "silent" tuberculosis to the moderately advanced stage is usually a relatively swift one and only by the barest chance is the minimal case detected. So long as we are obliged to wait until symptoms betraying pulmonary damage drive the patient to our offices, we shall probably continue to despair.

Wrestling with this deplorable state of affairs, efforts have been made to devise some way of detecting tuberculosis in its silent stage among apparently healthy people. Chadwick, Rathburn, Mayes and others pioneered in introducing the scheme of examining routinely, with tuberculin and the x-ray, students in colleges and high schools. This procedure, modified in various ways, has "caught on" throughout the country. The routine examination of all students brings to light early cases that might otherwise be undetected and progress to disabling disease. Lees, who examined last year all students of the University of Pennsylvania by the tuberculin-x-ray method, found seventeen cases of adult type pulmonary tuberculosis of whom all were symptomless and only one was dismissed from the school. Contrast this with the usual method of "passive" case finding, i. e. waiting for persons to apply to the doctor for the relief of symptoms. Lees reports that during the course of the same year, fifteen cases of tuberculosis had been discovered among students who came to the doctor because of one or another symptom. Twelve of the fifteen were advanced cases and were obliged to leave school.

In high schools the story is substantially the same except that fewer cases of adult type tuberculosis are found. However, follow-up work of adolescent children with significant childhood type lesions leads the investigators into many homes where there is an open case. This is important, for the real threat to the youngster is probably not the calcified remains of a primary complex but daily contact with a source of infection. No wonder proponents of the routine tuberculin-x-ray plan emphasize the value of locating such sources of infection. In grade schools the routine method has not been found so productive but where funds and

facilities are available, it is certainly an excellent addition to our school health program.

It is with the hope that the public will accept these newer ideas for the protection of young people that demonstrations are carried on in several important colleges and schools. It is hoped that ultimately parents will depend upon the family doctor to examine their children as a matter of course with tuberculin and the x-ray when indicated. In this educational campaign tuberculosis associations look to the physician for guidance and counsel.

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## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

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### KANSAS MEDICAL ECONOMICS COMMITTEE PROGRAM

#### A. Accumulation of Kansas Statistics.

##### I. Sub-Committees, Ten.

1. Each State Committee member acting as a subcommittee chairman, to have at least one representative from each county society in his district.
2. Each subcommittee to study specifically one of the following parts of the problem:
  - (a) Lay Medical Economic Information.
  - (b) Professional Medical Economic Information.
  - (c) Pre-Payment Plans.
  - (d) Preventive Medicine and Economic Survey.
  - (e) Socialized Medicine Survey.
  - (f) Social Security Act.
  - (g) Medical Economic Legislation.
  - (h) Medical relief to subsidized groups.
  - (i) Medical relief to non-subsidized low income groups.
  - (j) Installment-Discount and financing methods.

#### B. Dissemination of Information to all Component Societies.

- I. Accumulated statistics from Kansas and other states will be given each com-

ponent group, and assistance offered subcommittees and state Committees in applying a selected policy that will fit the local needs.

## DOCTOR WHO? DOCTOR WHY?

Who: A teacher; one skilled in a profession, or branch of knowledge; a learned man.

Why: An academical title originally implying that the possessor of it is so well versed in a department of knowledge as to be qualified to teach. (Webster.)

Etc.: Physician, dentist, minister, veterinary, philosophy, etc.

M.D.: Many physicians object to having the dentist, the veterinarian, minister, osteopath, chiropractor, philosopher, etc., referred to by the title "Doctor." How many of these same physicians have "Dr." (J. F. Doe) on their office sign or stationery, and also sign their name "Dr." (J. F. Doe)?

Before correcting every other profession wouldn't it be well for all physicians to change their stationery and office sign to (J. F. Doe) "M.D.", and always write "M.D." after their name?

## WASHINGTON PLAN QUESTIONS

Q. Is it a Bureaucratic form of service?

A. Yes.

Q. Does it do anything the physicians cannot do?

A. No.

Q. Does it do anything the physician does not do?

A. Yes, in many instances at least.

Q. What is that?

A. Capitalizes on the physicians failure to know more about Social Service methods of analyzing budget requirements, deferred installment payment plans, or his neglecting to discuss financial matters as confidentially as physical conditions.

Q. Is it a form of State Medicine?

A. It has a very good skeleton arrangement.

Q. Why?

A. There is nothing about it that lay groups could not operate by employing physicians and dentists.

Q. Does the plan inject a third party?

A. Yes. For financial adjustments.

Q. Is this objectionable?

A. Yes. It can easily create an indifference that embarrasses the patient by requiring them to run the gamut of bureau recorded investigations.

Q. Does it educate the people to believe the physician needs someone to run the business part of his practice?

A. Yes.

Q. Is there any part of the plan necessary?

A. The central admitting bureau idea properly controlled should stop the abuse of clinics for indigent patients.

Q. Who should support this part of the plan?

A. Tax payers, thereby avoiding unnecessary clinic expense.

Q. Is the prepayment hospital plan sound?

A. Large insurance companies have not deemed it feasible at the rates being charged now.

Suggestion No. 1.—Stop talking about "State Medicine!" Instead of running up the white flag and expressing publicly that State Medicine is sure to come, just stop and think a little about the effect of such talk. Inadvertantly you are doing just the thing the Foundation groups want you to do. You present yourself as defeated. You are admitting that such a change has merit. You know that isn't true. If you are properly informed, you are aware that even now with the examples of State Medicine in the form of Compensation Insurance, Lodge Insurance, etc., that the people are not fully satisfied. Then why continue trying to help them get more of such service?

Suggestion No. 2.—Stop Boosting State Medicine! A few years ago the ministers and representatives of character building organizations left no stone unturned to condemn the stage show "Strange Interlude." What happened? There was a sell-out at every performance.

Suggestion No. 3.—Stop feeling sorry! Most of the doctors who lament the present so-called inadequate medical care to the indigent and semi-indigent, get their information from the enthusiastic representatives of the organizations that are most interested in getting State Medicine. You know that adjustments are readily made, both in amounts and manner of settlement for patients in the low income groups whenever they make their circumstances known. The laws stipulate adequate medical care for the indigent. If they fail to get it, it is because these philanthropic organizations



do not exert their energies to see that sufficient funds and assistance is given the county physicians, and too because you continue to satisfy the individual's medical needs at your expense, and thus the real demand is never fully realized.

Is there any just reason why organizations interest themselves in providing for these people the necessities of life, with a profit to the grocer, druggist, coal dealer, water, light, and rent departments, and then resist any measure that would permit the doctor from getting expenses at least for giving medical attention?

Be sorry for the people who are deprived of this service, because these lay organizations keep them from getting it by trying to make something complicated out of something simple.

Suggestion No. 4.—Start talking about your virtues! You are the American Medical Association. You are the most essential part of medical service. The physician has accumulated information, scientific information, that would be of absolutely no value unless he was willing to use it. If all the physicians decided to take such a stand, what would the hospitals and all these foundations do? More can be gained by reminding and correctly informing the public about the achievements of present day medicine. The misguided individual is quick to appreciate the present values when he is properly informed, and it can be given without boasting.

## WPA TRAUMATIC INJURIES

(The following communication was received by the central office in appreciation of the Society cooperation with the WPA officials):

On behalf of the Works Progress Administration of Kansas, I wish at this time to express our thanks for the wonderful co-operation given us by The Kansas Medical Society, and also to you for your untiring efforts in working out some of our problems. Our contacts have been most harmonious and pleasant, and I am sure that they will continue so for the duration of this program.

There are still a number of vouchers for medical services submitted incorrectly, and we are showing below some of the errors that are most prevalent:

Vouchers for medical services should not be sent to the U. S. Employees' Compensation Commission, Washington, D. C., but should be returned to the issuing

office or, if such officer is not available, to the District Compensation Officer.

Special form CA-16, or CA-17, should be filled out at the time the S-69 voucher is prepared and, in all cases, should accompany voucher form S-69.

Where charges are made for supplies or drugs it should be stated on the face of S-69 whether or not such supplies or drugs were furnished from stock. If not furnished from stock, a receipted bill should accompany voucher S-69. It is also permissible for the drug store furnishing such items to submit a separate form S-69.

In listing specific dates of treatments given, be sure that the dates correspond to the total number of treatments shown.

Signatures must be written and cannot be typed or printed.

Character of services should be shown instead of merely saying "treatment" or "examination."

Where the secretary of the physician signs the report her name should also be shown, instead of merely signing "By Secretary."

Care should be taken to avoid erasures and mark-overs.

The large number of claims submitted has caused some delay in the mailing of checks for medical services, and the patient attitude of the physicians and surgeons in this connection is deeply appreciated.

Observance of the above exceptions will materially aid in expediting the payment of vouchers submitted.

Assuring you of our continued co-operation, I am

Respectfully,

J. J. Poizner,  
State Compensation Officer.

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## MEDICAL LITERATURE

Edited by Will C. Menninger, M.D.

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### TREATMENT OF MALDEVELOPED AND MALDESCENDED TESTES

This is the second paper by Dorff on the results of treating fourteen boys, ranging in age from six to thirteen and one-half years,

who presented maldeveloped or maldescended testes. The boys were given anterior pituitary-like gonadotropic hormone. The eleven cases which completed the treatment showed marked enlargement of the testes and development of the external genitals after sufficient therapy. The following conclusions were reached: The testes of a young child usually increased in size only within the physiologic limits of the patient's age, however, if the boy was of pubertal age, hypoplastic testes seemed to be able to enlarge in size beyond the normal limits for the age of the boy. The development of sex accessories seemed to be conditioned by the proper stimulation of the testis, for the sex accessories did not develop until the testis itself began to supply the male hormone in sufficient quantities to stimulate the accessory sex organs. Overstimulation with the anterior pituitary-like hormone will cause precocious development of the external genitals and the secondary sex accessories in young boys. Maldeveloped testes felt anywhere along the inguinal in almost all cases can be made to enlarge and descend. The exceptions are, perhaps, the few cases in which a mechanical obstruction is the cause of cryptorchidism. Treatment with anterior pituitary-like hormone apparently produces no ill effects on the other organs of the body. The increment in height and the increase in weight after treatment was greater than that observed in the patient prior to treatment. The osseous development in the group with hypothyroidism was not further depressed with the treatment and in some cases even the lag was overcome and the osseous age was almost normal. The normal osseous development in the group with hypogonadism was not disturbed. Basal metabolism studies made before and after treatment showed changes in the rate, but they were too irregular to be significant. Altho some testes will descend and correct themselves at puberty there are a sufficient number of cases in which testes will not descend and will atrophy to warrant the institution of early treatment. Prolonged and intensive treatment is necessary for complete anatomic and physiologic results. The psychic effects on these boys were significant in that the boys gained assurance and initiative after successful treatment.

Dorff, George B.: Maldevelopment and Maldescent of the Testes II. Further Observations on Treatment with Pituitary-Like Gonadotropic Hormone. *American Journal of Diseases of Children* 50:1429-1443, December 1935.

### INFANTILE CONGENITAL SYPHILIS

Ingraham presents the results of a study of the reliability and clinical practicability, as a diagnostic procedure, of roentgenographic study of the skeletal changes produced by congenital syphilis in the offspring of partially treated mothers. Not one of 1,517 babies discharged alive from the Philadelphia General Hospital during 1934 showed any clinical evidence of congenital syphilis, even tho the incidence of syphilis among the pregnant women was 11.8 per cent and the majority of patients received insufficient prenatal antisyphilitic therapy to insure the birth of healthy children. The Wassermann test was of value in diagnosing syphilis in not more than nine syphilitic children among 195 offspring of syphilitic mothers. The roentgenogram discovered forty additional cases in which the initial skeletal changes were evident roentgenographically before the blood serum gave a positive reaction. Twenty-six cases (19.4 per cent) were discovered before the age of six days and twenty-three cases (17.1 per cent) at ages from one to ten months. In five (9.8 per cent) of fifty-one cases in which the mothers were treated more than two months, syphilis was shown in the infants roentgenographically at six days; of sixty-eight cases in which the mothers were treated less than two months, there was positive roentgenographic evidence of syphilis in twenty-one (30.8 per cent.) Cases in which roentgenograms revealed no positive signs at the age of six days were studied later at ages from three to six months. Of thirty-six cases adequately followed the x-ray evidence subsequently became positive in twelve (thirty-three per cent.) In three cases a series of x-ray pictures taken over a period of several months showed that earlier bone changes seen a few days after birth are the precursors of the more advanced and easily recognized bone lesions which developed subsequently. As the disease progressed, the Wassermann reaction which was originally negative became positive.

Ingraham, Norman R.: Roentgen-Positive Seronegative Infantile Congenital Syphilis. *American Journal of Diseases of Children* 50:1444-1454, December 1935.

### ABSORPTION FROM BURNED TISSUE

In order to determine if substances are absorbed from burned areas, Mason et al have studied the rate of excretion of potassium iodide, a readily diffusible substance, follow-



ing subcutaneous injections in normal and burned animals. Seven normal rabbits were used to determine the rate of excretion of potassium iodide. Five cc. of a 2.29 per cent (approximately isotonic) solution per kilogram of body weight of potassium iodide was injected beneath the skin of the abdomen. The urine was collected by catheterization at twelve, twenty-four and thirty-six hours after injection. The percentage of potassium iodide excreted by these normal rabbits varied from 55.4 per cent of the total injected to 21.7 per cent. The method used to determine the amount of potassium iodide excreted was the destruction of organic material by oxidation and the conversion of the iodide to iodate by bromine water in a slightly acid solution. Potassium iodide is added, and the liberated iodine is titrated, using sodium thiosulphate with starch as the indicator. A burned area was produced on the abdominal surface of the rabbits, under complete anesthesia, and six hours later, potassium iodide, the same amount per kilogram of body weight as was used in the normal animals, was injected subcutaneously in the burned area. Excretions were collected and tested in twelve hour periods as before. The excretions were essentially the same in both the normal and burned animals. The authors conclude (1) that a readily diffusible substance of low molecular weight, such as potassium iodide, is absorbed from burned areas, and (2) that death occurring several days following severe burns is due mainly to the absorption of protein decomposition products.

Mason, Edward C.: Paxton, Pearl; and Shoemaker, H. A.: A Comparison of the Rate of Absorption from Normal and Burned Tissues. *Annals of Internal Medicine* 9:850-853, January 1936.

#### ARTERIOSCLEROSIS AND HYPERTENSION IN DIABETES

An analysis of the clinical records and post-mortem examination of 175 diabetic patients has been made by Root and Sharkey in an effort to answer the questions: (1) When does the excessive arteriosclerosis found in diabetic patients develop? (2) What are the characteristic steps in its progress? and (3) Are the morphologic changes of arteriosclerosis in diabetes different from those in non-diabetic patients? The 175 cases included one hundred females and seventy-five males, of whom ninety-three had had hypertension at some time. Obesity had been present in eighty-seven

per cent of the hypertensive and seventy-four of the non-hypertensive group. Sixty-three years was the average age at death for the hypertensive group and 51.1 for the non-hypertensive, and all the children and cases under thirty years of age fell in the non-hypertensive group. Onset of the diabetes before the age of thirty years was discovered in twenty-one per cent among the males and seventeen per cent among the females in this series. None of these cases under the age of forty had hypertension. A control group of 170 non-diabetic autopsies was compared with this series. No cases under forty years of age were included in the control group, altho in the diabetic group there were eighteen cases who died under the age of forty years. Tables show the striking excess of advanced arteriosclerotic lesions in the diabetics. Advanced coronary sclerosis with occlusion occurred in forty per cent of the diabetic and in only thirteen per cent of the non-diabetic, in spite of the fact that the average age for the diabetics was six years below that of the non-diabetics. The next question was whether this excessive arteriosclerosis was present when the diabetes began or whether it could be shown to have probably occurred after the onset of diabetes. Twenty-three cases of diabetes with duration of one year or less were selected on the basis that diabetes of such short duration could not have produced much change in the arterial system. The frequency of severe arteriosclerosis in these cases was found to be somewhat less than in the non-diabetics. Of forty-six cases with duration of over ten years, thirty-two had had hypertension and thirty had died as a result of coronary occlusion. Thus, in the group with diabetes of long duration, coronary disease as the cause of death was just four times as frequent in the diabetics as in the non-diabetic group. Altho it is difficult to state accurately the relative period of onset of hypertension and diabetes in most series of cases, in this series, where accurate data were possible, diabetes preceded hypertension in the majority of cases.

Root, Howard F. and Sharkey, Thomas P.: Arteriosclerosis and Hypertension in Diabetics. *Annals of Internal Medicine* 9:873-882, January 1936.

#### TREATMENT OF ARTHRITIS WITH GOLD SALTS

Phillips reports a series of twenty patients suffering with various forms of arthritis who were treated with gold salts. Fourteen of these patients responded poorly and exhibited the

following reactions: Headaches, dizziness, sleepiness, tinnitus, fever, general malaise, loss of weight, nausea, epigastric distress, vomiting, pruritus, dermatitis, anesthesia of the tongue, sore tongue, jaundice, and local swelling with formation of hard painful lumps at site of injections. He concludes that the hazard to the patient treated by this method is such that judicious care must be exercised in the selection of cases and their subsequent management and that "the whole subject of gold therapy in arthritis suggests a further emphasis on basic physiologic principles in the treatment of a disease group which has yet to yield consistently to specific therapeutic measures."

Phillips, Robert Titus: The Treatment of Arthritis with Gold Salts. *New England Journal of Medicine* 214:114-115, January 16, 1936.

since the true pituitary dwarf is a proportionate individual just as is the pituitary giant. Generalized chondro-epiphyseal changes including such conditions as Osgood-Schlatter's, Perthes', and Kohler's disease are not an infrequent finding. It has been shown that this extract was capable of producing amenorrhea in two patients with normal rhythmic menstrual periods, and of destroying libido entirely during the course of treatment in an adult male. Roentgenologically, a delay in osseous development is a good prognostic sign. Epiphyseal closure and approaching sex maturity are contraindications for the administration of this extract.

Schaefer, Robert L.: Endocrine Dwarfism. *Endocrinology* 20:64-71, January 1936.

### DEATH RATE FROM ALCOHOLISM

A chart prepared by Leary showing the number of deaths due to alcoholism, exclusive of automobile accidents, in Suffolk County, Massachusetts from 1913 to 1934 gives a graphic description of prohibition's effect in this part of the country at least. From 1924 to 1933 there was a more or less progressive downward trend in the death rate, altho the death rate was still relatively high. The sudden and extreme rise in 1934 in this county, where ethyl alcohol is sold without restriction in any drug store is in contrast with that in New York where a physician's prescription is necessary for the purchase of ethyl alcohol. Leary considers that the readiness with which ethyl alcohol can be purchased in Massachusetts is a factor in this local increase.

Leary, Timothy: The Death Rate from Alcoholism. *New England Journal of Medicine* 214:15-16, January 2, 1936.

### ENDOCRINE DWARFISM

Schaefer treated eleven cases of pituitary dwarfism of varying degree from six months to two years and nine months with anterior pituitary extracts. Statural height in excess of the normal growth for the patient's individual ages and period of treatment was induced. A comprehensive diagnostic survey to rule out non-endocrine diseases is necessary for a proper selection of cases for this treatment. An important diagnostic procedure is mensuration in that the patient's measurements should be proportionate and all below the minimal normal,

### POSTANESTHETIC HEADACHE

Believing spinal anesthesia to be the ideal conduction method of anesthesia for operations below the umbilicus, Harrison experiments with this method in order to eliminate the complicating factors such as headache. Defective distilled water caused by old rubber tubing in the distilling plant or an irritating solution will cause headache. This irritating character may be because of the chemicals it contains, (procaine hydrochloride is much more suitable than stovaine), because it is acid (any solution injected into the subarachnoid space should have a pH above seven,) or because it is either hypertonic or hypotonic. The temperature of the injection solution is also important because the injection of a cold solution into the subarachnoid space is irritating and harmful. Harrison concludes that if the anesthetic solution is made up to be as nearly nonirritating as possible, post anesthetic headache is reduced almost to the point of disappearance in patients in the recumbent position. He uses a simple solution of procaine hydrochloride of a strength from five to 5.5 per cent to which calcium chloride is added in a quantity sufficient to make its strength 0.024 per cent. In the winter this solution is warmed to body temperature before injection. By means of the intravenous injection of four ounces of a five per cent solution of dextrose in physiologic solution of sodium chloride immediately after the operation, headache is largely prevented even in ambulant patients.

Harrison, P. W.: Postanesthetic Headache. *Archives of Surgery* 32:99-108, January 1936.



## NEWS NOTES

### A. M. A. FELLOWSHIP

The following bulletin was forwarded to the secretaries of the county medical societies on March 20, 1936:

We are wondering if you would be good enough to announce at one of your early meetings the following statement which has been issued by Dr. Olin West, Secretary of the American Medical Association:

"The members of the American Medical Association are those members in good standing in its constituent state medical association whose names are officially reported to this office for enrollment. Members, as such, pay no dues, nor are they required to make any contribution of a financial nature to the American Medical Association. All members of the American Medical Association in good standing are eligible to apply for Fellowship. Members who desire to qualify as Fellows are required to make formal application, and all Fellows are required to subscribe to The Journal of the American Medical Association. Fellowship dues and subscription to The Journal are included in the one annual payment of \$7.00, which is the regular subscription price of The Journal. None but Fellows of the Association can serve as members of its official bodies, and none but Fellows and Invited Guests are permitted to register at its annual sessions or to take part in the scientific work of the sections of the Scientific Assembly. Members of the House of Delegates must be Fellows, and none but Fellows are eligible for election as officers of the Association.

Fellows who desire to do so are permitted to substitute one of the special journals published by the Association for The Journal in connection with Fellowship. If the subscription price of the special journal selected is larger than the subscription price of The Journal, the full subscription price for the special journal must be paid. If the subscription price of the special journal is less than that of The Journal, the sum of \$7.00 a year must be paid in order to complete Fellowship.

I think it is well to stress the fact that there is no registration fee for the annual meeting in Kansas City but that none but Fellows or Invited Guests are eligible to register. Application for Fellowship may be made at the Registration Bureau if this has been neglected previously. Applications for Fellowship filed at the Registration Bureau will be honored at the session, but these applications must be subjected to the usual investigation at the offices of the Association when the session is over. Those who apply for Fellowship at the Registration Bureau must present evidence of membership in good standing in a constituent state medical association."

We feel that these facts may not be known to all members, and that an announcement would tend to avoid difficulties for registration at the next American Medical Association meeting to be held in Kansas City, Missouri, May 11-15.

Clarence G. Munns,  
Executive Secretary.

### DR. GEO. M. GRAY HONORED

The staff of St. Margaret's Hospital, Kansas City, Kansas, participated in a banquet on March 4, in honor of Dr. Geo. M. Gray's eightieth birthday.

Dr. M. J. Owens, staff president, was the presiding official; Honorable James F. Getty, Rt. Rev. Abbott Martin Veth, and Dr. C. C. Nesselrode, spoke in appreciation of Dr. Gray's services on behalf of the laity, clergy and staff respectively; and Dr. O. W. Krueger, described events in Dr. Gray's life.

A large attendance was present and many letters and telegrams were read. The Society forwarded the following communication:

"On behalf of the Society we want to congratulate you upon this your 80th birthday. We feel certain the Society would want the theme of this birthday greeting to contain the fact that it believes no organization has a more efficient, conscientious or capable official than yourself. Many happy returns of the day."

### CONSTITUTION REVISION

The Committee On Constitution and By-Laws has recently completed a suggested revision of the Society's Constitution and By-Laws.

The completed document was officially transmitted to the county medical societies under date of March 6 and will be considered for adoption at the meeting of the House of Delegates to be held in Kansas City, Kansas, on May 11.

Major changes of the present Constitution and By-Laws are as follows: Establishment of a budget system for Society finances; commencement of officers terms at the close of annual session instead of January 1; addition of a section on impeachment; inclusion of a second vice-president; incorporation of sections relating to the central office and the Editorial Board; and general revision of wording duties and procedure.

### MEDICAL HISTORY

Mr. A. Q. Miller, State Director of Writer's Projects of the Kansas WPA has recently referred a project to Washington wherein the services of the WPA writers would be utilized to prepare a Kansas medical history.

Details of the plan provide that the WPA would assemble medical information through interviews with physicians, research in libraries, and from other sources for subsequent completion into book form.

### NEW SOCIETIES

Dr. J. L. Lattimore, Councilor for the fourth district, assisted in the organization of two new county medical societies during the past month.

The physicians of Osage County met in Lyndon on March 18 and organized an Osage County Medical Society. Dr. G. B. Kierulff, Melvern, was elected president; Dr. Fred Schenck, Burlingame, vice-president; and

Dr. C. W. Beasley, Lyndon, secretary-treasurer. The first meeting of the society will be a banquet to be held during April in honor of Dr. Franklin E. Schenck's fifty years of practice.

A Wabaunsee County Medical Society was organized in Eskridge on March 19. Dr. L. M. Tomlinson, Harveyville was elected president and Dr. C. L. Youngman, Harveyville was elected secretary-treasurer.

### WPA NURSERY PROJECTS

Representatives of the Society are holding conferences with Kansas WPA officials to develop a plan wherein the county medical societies will assist in the public health features of the WPA nursery school projects.

These projects, which consist of pre-school training for the children of relief families, are to be supervised by registered nurses and it is probable that the county medical societies will be asked to provide advisory committees to supervise the medical aspect of the work.

### SCIENTIFIC WORK COMMITTEE

The Committee on Scientific Work at a recent meeting voted to compile an official list of speakers available for county medical society meetings.

It is planned that the list will include all members of the Society who are willing to appear on these programs, representatives from the Kansas State Dental Association, the Kansas Bar Association, the Kansas State Board of Health, the Kansas State Hospitals, the Kansas Tuberculosis Sanatorium, the Kansas Pharmaceutical Association, the Kansas Veterinary Medicine Association, the University of Kansas Medical School; selected commercial concerns; and others who are able to present technical information of interest to physicians.

The list will also contain information about the subjects for which speakers will be available, the number and kind of meetings they are willing to attend, and the compensation or expenses required.

It is the opinion of the Committee that this compilation will be of assistance to the various program committees and that it will make possible a greater number of county medical society meetings.

### TUBERCULOSIS PROGRAM

The Johnson County Medical Society will sponsor a public information program on tuberculin testing for adolescents in that county in the near future.

News releases on this subject are to be published in local newspapers, pamphlets are to be distributed through schools and lay groups, and a series of public meetings will be held.

### S. E. KANSAS SANATORIUM

Pursuant to the instruction of the Council at its recent meeting, a letter was directed to the Kansas Board of Administration advising that the Society felt there was need for a tuberculosis sanatorium in south eastern Kansas and that it would be glad to lend its assistance in that direction.

The following reply has been received from Dr. James M. Scott, vice-chairman:

"I wish to acknowledge your letter of February 21 concerning the additional housing for the State tuberculosis patients and assure you that the Board of Administration, including Governor Landon, appreciates your stand in this matter. Personally, I am very much in favor of an additional institution in the eastern part of the state as soon as the Norton Sanatorium is built up to its efficiency capacity, which should be about 750."

### PHYSICIANS FOR CCC CAMPS

The central office has received the following information from Major C. C. Starks, of the Civilian Conservation Medical Corps:

"There is at present a shortage of Medical Reserve Officers and full time Contract Surgeons in the Missouri-Kansas CCC. Physicians interested may obtain full information by communicating with the District Surgeon, Missouri-Kansas District CCC., Station Hospital, Fort Leavenworth, Kansas."

### DENTAL MEETING

The sixty-fifth annual meeting of the Kansas State Dental Association is to be held at Memorial Hall in Salina on April 27-29.

A program featuring O. W. Davidson, M.D., Kansas City, Kansas; Howard Raper, D.D.S., Albuquerque, New Mexico; Bert Hooper, D.D.S., of Nebraska University; and Miss Anna Taylor, of Atlanta, Georgia, will be presented.

All members of The Kansas Medical Society are invited to attend.

### WORKMAN'S COMPENSATION MEETING

Representatives from the United States, Canada, Porto Rico, and other countries will attend the twenty-third annual conference of the International Association of Industrial Accident Boards and Commissions to be held in Topeka, September 21-24, 1936.

Subjects to be presented at the meeting will consist of medical presentations, safety data and other information of interest to persons engaged in workmen's compensation and industrial relations.

Mr. Clay Baker, Commissioner of Labor and Industry, Topeka, is president of the Association for 1936 and Dr. J. F. Hassig, Kansas City, is chairman of the medical committee of the organization.

A later announcement will be made for the benefit of all Kansas physicians who desire to attend the meeting.

### ACADEMY OF SCIENCE

A letter has been received from Dr. W. J. Baumgartner, president of the Kansas Academy of Science in which an invitation was extended the Society to participate with other scientific groups of the state, in the formation of a Kansas Association for the Advancement of Science.



Dr. H. L. Snyder, President, has replied that the Society would be interested in this possibility and arrangements have been made for an organization meeting to be held next October.

## PUBLIC HEALTH AND EDUCATION COMMITTEE

The following are the minutes of the meeting of the Public Health and Education Committee which was held in Winfield, March 3:

### Meeting of the Public Health and Educational Committee

March 3, 1936, Winfield, Kansas

Members present were: Dr. H. L. Snyder, President; Dr. H. L. Chambers, Chairman; Dr. F. A. Kelley; Dr. J. N. Sherman. Clarence Munns was present as Executive Secretary.

Dr. Chambers discussed several possible activities of this Committee and also the program of its activities officially adopted at the conference of Committee Chairmen held in Topeka on January 29, 1936.

The following general rules relating to lay information to be released by this Committee were unanimously adopted:

1. Only well established material and products shall be included.
2. No personal or group attacks shall be included.
3. No recognition shall be given to patented or copyrighted products.
4. There shall be a division of responsibility in the preparation of material, and all material shall be edited and approved by the Committee.

Approval was given for a project wherein this Committee will supervise the preparation of articles on various topics suitable for distribution in pamphlet form by members as follows:

1. That information be obtained from the American Medical Association as to pamphlets it has available.
2. That the county medical societies be invited to prepare articles of this kind.
3. That members be invited to prepare material of this kind.
4. That Dr. Kelley prepare a pamphlet on the subject of Medical Fees and that Dr. Chambers prepare one on the subject of Medical Ethics.
5. That all pamphlets to be issued shall be written by members of this organization except those furnished by the American Medical Association.
6. That no pamphlet be attempted on the subject of socialized medicine until figures are available from the survey to be conducted by the Medical Economics Committee.
7. That all material in this connection shall be prepared in mat form and be made available to the county medical societies for printing if desired by local printers.

Approval was also given to a project wherein this Committee will supervise the preparation of talk outlines

suitable for use by members in presenting talks before lay groups as follows:

1. That the American Medical Association be asked to forward all material of this kind that it has available.
2. That the topics to be included shall consist of talks on Kansas healing laws, preventive medicine, quarantine and other subjects relating to public health.
3. That students at the University of Kansas Medical School shall be invited to conduct research and prepare outlines for this purpose.

The Committee approved the institution of state speakers bureau for provision of member speakers to lay groups as follows:

1. That correspondence and activities relating to the bureau shall be handled by the central office.
2. That the individual county medical societies shall be asked to select members who will be willing to attend meetings of these groups for presentation of talks on subjects suggested by this Committee.
3. That the central office shall frequently publish to various lay groups, a list of subjects and other assistance available in this connection.
4. That each lay group shall be expected to pay the expenses of the speaker or speakers it invites.

Decision was made that this Committee should assist in a promotion of similar speakers bureau activities by the county medical societies towards making member speakers available to various local lay groups.

Information was presented concerning possibilities of Society sponsored radio talks on public health subjects and decision was made that this matter should be studied with a view toward future institution of a project of this kind.

Approval was given to a project wherein weekly news releases on public health topics will be offered to Kansas newspapers with the understanding that the Chairman shall approve and arrange a plan of procedure in that connection.

Pursuant to a suggestion by Dr. Snyder, development of a plan for assistance in the public health portion of the Social Security Act was postponed pending receipt of further information in that regard.

Adjournment followed.

## MEDICAL WOMEN'S MEETINGS

Dr. Elvenor Ernest, Topeka, Coordinating Chairman for American Medical Association Women, has requested that all Kansas women physicians be advised of the following:

The Kansas Medical Women will meet at the Newbern Hotel, Wednesday, May 13, 12:30 P. M., for a luncheon, election of officers, and other business. All women physicians in Kansas whether in practice or not are welcome. For further information write Etta S. Mundell, M.D., President, Hutchinson, or Louise F. Richmond, M.D., Secretary, Hutchinson.

The Medical Women's National Association meets Sunday, May 10, continuing through Monday and ending with the election of officers, Tuesday morning. Further details may be obtained from Marie Esmond,

M.D., Chairman, 1300 Professional Building, Kansas City, Missouri.

There will be an American Medical Association dinner for all visiting women physicians, Wednesday evening, May 15.

A registration and information table will be maintained in Convention Hall for the convenience of the visiting women physicians. Please use this service freely. All registrations for the A. M. A. dinner for women must be made by noon Wednesday, May 13, so please register early. All women's activities, including National programs, Kansas state luncheon meeting, and the A. M. A. dinner will be in the Newbern Hotel. There are still reservations to be had at the Newbern. Write immediately stating time of arrival and how long you expect to stay. The Newbern Hotel is in an excellent location with bus and taxi service especially good and reasonable. It is within the thirty-cent taxi zone and the fare is the same for one person or a taxi-full.

Since Kansas and Missouri are cooperating in the entire A. M. A. program, the women from these two states are automatically hostesses to the visiting women physicians. There should be one hundred per cent attendance!

Elvenor Ernest, M.D., Coordinating Chairman.  
Mills Building,  
Topeka, Kansas.

### DEBATE

The Wyandotte County Medical Society has made arrangements to have the affirmative and negative debate teams of Wyandotte High School present debates on socialized medicine before that society on April 7.

Local dentists, pharmacists, social workers, attorneys, bankers, medical students, visiting nurses, and representatives of lay groups have been invited to attend.

### MEMBERS

The March issue of the University of Kansas Graduate Magazine lists Dr. Fred Angle, Kansas City, as a candidate for vice-president of the Kansas University Alumni Association. The candidates are selected by an alumni committee.

Dr. P. E. Beauchamp, formerly of the Bethany Methodist Hospital in Kansas City, has located in Sterling where he will continue his practice.

Dr. E. R. Cheney, Gypsum, celebrated his forty-fifth anniversary as a practicing physician on March 16. He has been located in Gypsum since 1893.

Dr. J. Leonard Dixon, of Clay Center, is at the Tulane Medical School in the Department of Surgery where he has started a two-year fellowship under Dr. Alton Ochsner. He also teaches part time in the undergraduate school in surgery.

Dr. Frank Foncannon, Emporia, addressed the Woman's City Club of Burlington on March 11. His subject was "The Control of Cancer."

Dr. W. E. Janes was the honored guest at a party given on March 10 at the Williamsburg High School

complimenting him on his fifty-two years of service to the Williamsburg community, and on his seventy-sixth birthday anniversary.

The United States Department of Agriculture Bulletin under date of March 4 announces the appointment of Dr. Edward C. Joss as chief of the Meat Inspection Division of the Bureau of Animal Industry. Dr. Joss is an uncle of Dr. C. E. Joss of Topeka.

Dr. Karl A. Menninger, Topeka, addressed the Hennepin County Medical Society in Minneapolis, during February on the subject of "Emotional Factors in Hypertension." Dr. Menninger and Dr. Leo Stone, also of Topeka, were guest speakers at a meeting of the Chicago Neurological Society at the Women's Club in Chicago, February 20.

Dr. Will Menninger, Topeka, is the author of an article on "Individualization in the Prescriptions for Nursing Care of the Psychiatric Patient" which appeared in the March 7 issue of The Journal of the American Medical Association.

Dr. James T. Reid, Iola, has been designated as the State Highway Commissions physician and surgeon for Allen County, by the Highway Commission.

Dr. and Mrs. J. S. Scott, formerly of Clifton, have moved to Anaheim, California, where they will make their future home. Dr. Scott had practiced medicine in Clifton for twenty-six years.

Dr. Mayer Shoyer, Soldier, has been appointed as county health officer for Jackson county.

Dr. H. L. Snyder, President, addressed the staff conference during the sessions of the meeting of the American College of Surgeons at Omaha, Nebraska, during the week of March 9.

The central office has recently received a request from Dr. P. Plum, Blegdams hospital, Copenhagen, Denmark, for a copy of the article on "The Effect of Amidopyrine and Phenobarbital on the Blood Cell Count of White Rats" by Sloan J. Wilson, M. S., which appeared in the December 1935 issue of the Journal.

Drs. T. E. Smith, W. S. Hudiburg and J. G. Hughbanks, all of Independence, moved their offices from the Citizens Bank Building to the Bell Apartment Building in Independence.

Dr. W. C. Lathrop, Norton, who established the Laird Memorial Hospital at Norton in 1914, has taken over the management of the hospital, and it will now be known as the Norton Hospital. It was formerly under the management of the northwest Kansas conference of the Methodist Church.

### COUNTY SOCIETIES

Dr. J. N. Dieter, Abilene, was elected president of the Dickinson County Medical Society to serve during 1936. Dr. L. G. Heins, Abilene, was elected secretary.

The Douglas County Medical Society held a meeting on March 5 in Lawrence, with Dr. H. T. Jones, Law-



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rence, and Dr. Lucius Eckles, Topeka, as the guest speakers. Dr. Jones read a paper on "Radiology" and Dr. Eckles spoke on "Colic in Infants."

A meeting of the Ford County Medical Society was held in Dodge City, on March 13. Dr. D. V. Conwell, Halstead, spoke on "Muscular Dystrophy" with discussions by Dr. Richard Speirs, Spearville, and Dr. J. W. Spearing, Cimarron. Dr. Leo W. Bortree, Colorado Springs, Colorado, spoke on "Arteriosclerotic Heart Disease" with discussion by Dr. Foster Dennis and Dr. V. B. Dowler, Dodge City.

Franklin County Medical Society members were hosts to members of Anderson, Allen, Miami and Douglas county medical societies on February 26 at a dinner-meeting in Ottawa. Dr. F. A. Trump, Ottawa, talked on "The Collapse Treatment for Tuberculosis," illustrating his lecture with films as the first part of the program. A debate by two high school students on state medical care was the second part of the program.

The members of the Golden Belt Medical Society held their forty-seventh annual meeting in Junction City on April 2. Speakers and their subjects were as follows: Dr. Robert M. Carr, Junction City, "Hodgkin's Disease"; Dr. Frank C. Boggs, Topeka, "Retropharyngeal Abscess"; Dr. Howard Gray, Rochester, Minnesota, "Some Problems Associated with Surgery of the Biliary Tract"; Dr. John R. Nilsson, Omaha, Nebraska, "Surgical Conditions of the Esophagus" illustrated with motion pictures. Discussions of these papers were led respectively by Drs. John M. Porter, Concordia, C. D. Armstrong, Salina, C. E. Joss, Topeka, and A. E. Hertzler, Halstead. The program continued through the day and a dinner was served to members and visitors at the Country Club.

A meeting of the Harvey County Medical Society was held in Newton on March 1, at the Bethany Hospital.

Dr. Richard L. Sutton, Jr., Kansas City, was the guest speaker at the regular monthly meeting of the Labette County Medical Society held in Parsons on February 26. He discussed the causes and treatment of various types of skin diseases.

The Marion County Medical Society held a meeting in Marion on March 11 with Dr. J. B. Nanninga, Goessel, and Dr. R. R. Melton, Marion, as guest speakers. Dr. Nanninga read a paper on "Death of an Infant from the Inhalation of Fumes from a Patent Asthma Cure" and Dr. Melton's paper was on "Kidney Tumors of Infancy."

The following officers were elected to serve during 1936 in the Mitchell County Medical Society: Dr. R. S. Pickler, president; Dr. H. B. Vallette, vice-president; Dr. W. W. Weltmer, secretary-treasurer; and Dr. H. L. Collins, censor. All the officers are Beloit physicians.

A Society charter was forwarded to the Pottawatomie County Medical Society under date of March 10. Application of this society was approved at the January meeting of the Council. The Society held the first meeting on March 12, with a dinner and motion picture show.

A dinner-meeting of the Pratt County Medical Society was held in Pratt on February 28. Two Wichita

physicians, Dr. F. L. Menehan, and Dr. John L. Kleinheksel gave the principal talks of the evening. Dr. Menehan read a paper on "Infant Feeding" and Dr. Kleinheksel's paper was on "Diabetes in Pregnancy."

The Saline County Medical Society held a dinner-meeting on March 9 honoring Dr. O. D. Walker, of Salina, who celebrated his fiftieth anniversary in the practice of medicine. Dr. Walker has been a past state president and a past president of the local society and is now seventy-six years of age and still in active practice.

Dr. J. L. Kleinheksel and Dr. J. G. Missildine both of Wichita, were the principal speakers on the program of the Sedgwick County Medical Society at their regular monthly meeting on March 5. Dr. Kleinheksel spoke on "Diabetes in Pregnancy" and Dr. Missildine spoke on "Diagnosis in Kidney Infections."

The two March meetings of the Wyandotte County Medical Society were held on March 3 and 17 respectively in Kansas City. At the meeting on March 3, Dr. Warren H. Cole, St. Louis, Missouri, spoke on "The Causes of Failure in Gall Bladder Surgery"; at the March 17 meeting Dr. W. J. Feehan, Kansas City, spoke on "Fractures of the Neck of the Femur" and C. C. Little, D.Sc., Managing Editor of the American Society for the Control of Cancer was the other speaker on the program.

## BOOK REVIEWS

HUMAN PATHOLOGY, by Howard T. Karsner, M.D., Professor of Pathology, Western Reserve University, Cleveland, Ohio. Fourth edition. 974 pages. 18 illustrations in color, 443, black and white. J. B. Lippincott Company, Philadelphia.

The fourth edition is an excellent addition to Dr. Karsner's previous books. The first part of the book, thoroughly covers the basic principle, upon which pathology is founded and covers such discussions as the nature of disease, pigmentation, degenerations, atrophy, circulatory disturbance, etc. The chapter on inflammation is especially complete, covering the classification, causes, types, repair and regeneration, with a description of component parts of exudate. The illustrations are unusually good, of the gross and microscopical lesions. Tumors are covered thoroughly but in a very compact manner. The book is unexcelled in basic principles of pathology, is well written and has a complete bibliography.

J. L. Lattimore, M.D.

THE 1935 YEARBOOK OF EYE, EAR, NOSE, THROAT, by Drs. Brown, Bothman and Shambaugh. Yearbook Publishers.

One of the most useful publications that is afforded us is the Year Book of Eye, Ear, Nose and Throat. The 1935 edition now being issued is well up to the standard of previous numbers.

Being a composite resume of all the articles of note published in the past year it affords those who do not have access nor time to read the various magazines a knowledge of the current literature.

The scope of the book makes it of interest to the general man as well as the specialist as evidenced by the following titles:



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<i>Feeding</i>	<i>1st Week</i>	<i>2nd Week</i>	<i>3rd Week</i>	<i>4th Week</i>
6:00 A.M.	Breast	Breast	Breast	Bottle
10:00 A.M.	Breast	Breast	Bottle	Bottle
2:00 P.M.	Breast	Bottle	Bottle	Bottle
6:00 P.M.	Bottle	Bottle	Bottle	Bottle

ounces each, at 4 hour intervals. The formula can be concentrated once the baby is adjusted to the bottle feeding.

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- 2. Minimal visual requirements for safe automobile driving.
- 3. Prenatal medication of quinine as a possible etiologic factor of deafness in the new born.
- 4. A very complete review of the various acute ear conditions.
- 5. Infections of the neck, etc.

A note by the editors follows many of the articles criticising or giving acknowledgement to various ideas is both interesting and instructive.

Byron J. Ashley, M.D.

RUSSELL A. HIBBS. By George M. Goodwin, New York, The Columbia University Press, 1935. Price \$2.00.

This is a small treatise covering the life of Russell A. Hibbs, one of the outstanding pioneers in orthopedic surgery in this country. The text deals with the life of this surgeon from his early days until he became the head of the New York Orthopedic Hospital. The author emphasizes the great outstanding quality of this man—his personality. His understanding of the problems which confronted the crippled and the disabled led him to organize methods whereby these patients could be treated with the minimum expense, an outstanding feature in the treatment of the poor. The story of his life read almost like the novel of "the self made man" by Alger. He came to New York a stranger with no letters of introduction, and reached the highest pinnacle by his own personality and achievement.

A section is also written by Sampel W. Lambert on Russell A. Hibbs as a sportsman. A tribute is also made by Karl Vogel.

The final portion of the book is devoted to the original papers of this surgeon.

M. E. Pusitz, M.D.

DEATH NOTICES

Dr. Robert A. McIlhenny, 70 years of age, died at his home in Conway Springs, on March 3. He had practiced medicine at Conway Springs for the past 46 years. He was born in 1866 and attended the Rush Medical College in Chicago, graduating in 1891. He was a member of the Sumner County Medical Society.

Dr. H. W. Norrish, 66 years of age, died in Logan on March 15. He was born in London, England, in 1870 and came to America in 1872. His family first settled in Adams County, Nebraska, but moved to Graham County, in Kansas in 1885. He graduated from Ensworth Medical College at St. Joseph, Missouri, in 1894, and from the Missouri Medical College of St. Louis in 1895. He was a member of the Northwest Kansas Medical Society.

Dr. E. W. Reed, 66 years of age, died at Christ's Hospital, in Topeka, on February 25. He was a resident of Holton. He was born in Circleville, Picaway County, Ohio, in 1870 and moved to Kansas in 1875. He attended the medical school at Ann Arbor, Michigan, and graduated from there in 1904. He practiced medicine 30 years in Holton. He was president of the Jackson County Medical Society at the time of his death.

Dr. Frank M. Wiley, 81 years of age, died in Fredonia on March 12. He was a practicing physician in Fredonia for fifty-nine years. He graduated from the Starling

Medical College, Ohio, in 1877. He was a member of the Wilson County Medical Society.

Dr. W. S. Yates, 69 years of age, died at his home in Junction City on March 29. He was born at Tonganoxie and taught school in Leavenworth county at the age of 16 years. He graduated from the Kansas City Medical School in 1893, had a degree from the University of Kansas, and did postgraduate work in New York City and Chicago. He was county health officer at the time of his death, had served as president of the Golden Belt Medical Society, and was a member of the Geary County Medical Society.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending March 21	Month ending February 22
Scarlet Fever .....	1317	1175
Chickenpox .....	699	985
Pneumonia .....	540	791
Mumps .....	465	466
Influenza .....	390	191
Smallpox .....	226	59
Whooping Cough .....	165	163
Tuberculosis .....	77	46
Syphilis .....	61	91
Diphtheria .....	53	70
Gonorrhea .....	52	69
Measles .....	47	106
Erysipelas .....	45	28
German Measles .....	27	19
Vincent's Angina .....	21	12
Pink-eye .....	12	12
Meningitis .....	8	9
Cancer .....	5	1
Poliomyelitis .....	3	4
Undulant Fever .....	2	16
Encephalitis .....	2	5
Typhoid Fever .....	2	3

NEW BOOKS RECEIVED

THE 1935 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY by Dr. Joseph B. DeLee, professor of obstetrics, University of Chicago Medical School, and Dr. J. P. Greenhill, professor of gynecology, Loyola University Medical School. Published by the Year Book Publishers, at \$2.50 per copy.

INTERNATIONAL CLINICS—Volume I, Forty-Sixth Series, March 1936. Edited by Dr. Louis Hamman, visiting physician Johns Hopkins Hospital. Published by J. B. Lippincott Company, at \$3.00 per copy.

MEDICAL PAPERS—Dedicated to Dr. Henry Ashbury Christian. Edited by his present and past associates and house officers at the Peter Bent Brigham Hospital, Boston, Massachusetts. Published by the Waverly Press, Inc.



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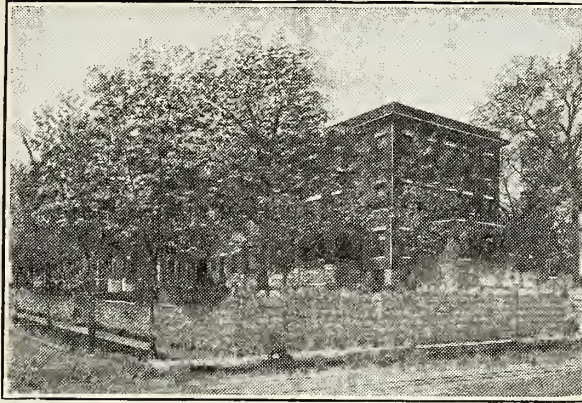
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PHYSIOLOGY OF LOVE by Professor Paola Mantegazza and edited by Dr. Victor Robinson, Editor-in-chief, of Medical Review of Reviews. Published by the Eugenics Publishing Company, New York, at \$3.00 per copy.

THE 1935 YEAR BOOK OF NEUROLOGY, PSYCHIATRY, AND ENDOCRINOLOGY by Dr. Hans H. Reese, professor of neurology and psychiatry, University of Wisconsin Medical School; Dr. Harry A. Paskin, professor of nervous and mental diseases, Northwestern University Medical School; Dr. Elmer L. Sevringhaus, associate professor of medicine, University of Wisconsin Medical School. Published by the Year Book Publishers, Chicago, at \$3.00 per copy.

PEDIATRIC NURSING by Dr. John Zahorsky, professor of pediatrics and director of the department of pediatrics, St. Louis University School of Medicine. Published by the C. V. Mosby Company, St. Louis, Missouri, at \$3.00 per copy.

THE SINGLE, THE ENGAGED, AND THE MARRIED by Dr. Maurice Chidekel, Baltimore. Published by the Eugenics Publishing Company, New York, at \$2.50 per copy.

ABORTION-SPONTANEOUS AND INDUCED—By Dr. Frederick J. Taussig, professor of clinical obstetrics, at the Washington University. Published by the C. V. Mosby Company at \$7.50 per copy.

GUIDE TO PSYCHIATRIC NURSING by Dr. F. A. Carmichael, superintendent Osawatomie State Hospital, Osawatomie, Kansas, and Dr. John Chapman, sometime associate in psychiatry, Osawatomie State Hospital. Published by Lea and Febiger, Philadelphia, at \$2.25 per copy.

SYNOPSIS OF CLINICAL LABORATORY METHODS by Dr. W. E. Bray, professor of clinical pathology, University of Virginia. Published by The C. V. Mosby Company, St. Louis, Missouri, at \$3.75 per copy.

EXAMINATION OF THE PATIENT AND SYMPTOMATIC DIAGNOSIS by Dr. John Watts Murray. Published by the C. V. Mosby Company at \$10.00 per copy.

### ANNOUNCEMENTS

The American Association on Mental Deficiency will hold its sixtieth annual meeting at the Hotel Jefferson, St. Louis, Missouri, on May 1-4. This association is composed of about 500 educators, psychologists, sociologists, and psychiatrists. For further details address, Dr. Graves B. Smith, Godfrey, Illinois.

—JKMS—

The American Medical Golfing Association will sponsor a golfing tournament on May 11 at the Missions Hills Golf and Country Club and the Kansas City Country Club. The tournament will be a 36-hole affair, and green fees and the dinner will cost \$3.00. Old members will pay \$1.50 tournament fee and new members \$3.00 to become permanent members of the association. Numerous prizes will be awarded the winners. There

will be eight flights, (Medal Play) and the first group will tee off at 7 A. M. The annual banquet will be held at 7:00 P. M. at the Mission Hills Club house. Further information may be obtained by writing to Bill Burns, 2020 Olds Tower, Lansing, Michigan, or Clarence S. Capell, Rialto Building, Kansas City, Missouri.

—JKMS—

The medical staff of the Menninger Clinic will conduct its second annual Postgraduate Course in Neuropsychiatry in General Practice, April 20 to 23, 1936 at the Menninger Clinic, Topeka, Kansas. Guest speakers at the course will be Dr. I. S. Wechsler, professor of clinical neurology at Columbia University and attending neurologist for the Neurological Institute and the Monefiore hospital, New York City; Dr. J. W. Kernohan, pathologist to the Mayo Clinic and associate professor of pathology at the University of Minnesota; Dr. Frederick P. Moersch, Section on Clinical Neurology of the Mayo Clinic; and Dr. Harry Wilkins, associate professor of surgery at the University of Oklahoma, Oklahoma City.

### AUXILIARY

The following is the official program of the Woman's Auxiliary meeting to be held at the Kansas City, Missouri, meeting of the American Medical Association:

Sunday, May 10th:

4:00 to 7:00 P.M. Tea for National Board, honoring Mrs. R. N. Herbert. Given by board of Jackson County Woman's Auxiliary, assisted by officers of Woman's Auxiliaries to Wyandotte and Clay Counties. Home of Mrs. C. C. Dennie.

Monday, May 11th:

10:00 to 12:00. National Board meeting, Francis I Room, Baltimore.

12:30 to 2:00. National Board Luncheon at Woman's City Club. Mrs. George Hoxie and Mrs. A. B. McGlothlin, hostesses.

2:00 to 3:30. National Board meeting, continued.

4:00 P.M. Drive and Tea (Complimentary.)

7:00 P.M. Dinner honoring founders, officers and presidents of Woman's Auxiliaries to Missouri and Kansas. \$1.50. Kansas City Country Club.

Tuesday, May 12th:

8:00 A.M. Southern Breakfast, Hotel Baltimore, \$1.00.

9:00 A.M. General session of Woman's Auxiliary to A.M.A., Francis I Room, Hotel Baltimore.

12:30 to 2:00. Luncheon, honoring Past-Presidents of National Auxiliary, Renaissance Room, Hotel Baltimore. \$1.25.

2:30 to 3:30. Conference Groups, Hotel Baltimore, Mezzanine Floor.

3:45 to 5:30. Drive and Teas (Complimentary.)

8:00 P.M. Open Meeting at Auditorium.

Wednesday, May 13th:

9:00 to 12:00. General Session, Francis I Room, Hotel Baltimore.

12:30 to 3:00. Annual Luncheon, Pompeian Room, Hotel Baltimore, Perry Bromberg, Speaker. \$1.50.

3:30 to 5:30. Drive and Teas (Complimentary.)

8:00 to 10:00 P.M. Gallery Walk, William Rockhill Nelson Gallery of Art.

8:00 to 9:00. Lecture "Silver."



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Thursday, May 14th:

10:00 A.M. Post Convention Board Meeting.

12:30 to 3:00. Luncheon, Woman's City Club, Tom Collins, Speaker. \$1.00.

7:00 P.M. "Bring-Your-Husband" Dinner, Pompeian Room, Hotel Baltimore. \$2.00.

9:00 P.M. President's Ball and Reception, Muehlebach Hotel.

Friday, May 15th:

A.M. Golf—Mrs. C. R. McCubbin, Chairman. Or Tours.

1:00 P.M. Luncheon at Country Club. (Probably Blue Hills at \$1.00.)

—JKMS—

A joint meeting of the Auxiliary Committee and the officers of the Auxiliary was held in Wichita on March 31. A complete description of the meeting will be contained in the next issue of the Journal.

—JKMS—

Questionnaires concerning lay groups to which members of the Auxiliary belong and other items of interest to its officers were forwarded to all members on February 25. The replies are to be tabulated and forwarded to the officers by the central office.

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### FOOD ALLERGY\*

HERBERT J. RINKEL, M.D.

Kansas City, Missouri

Of the three definitely proved, distinct groups of allergens, the contactants, the inhalants and the ingesta, that of food is usually the most difficult to evaluate in the etiology of an allergic disease. It is difficult not only because of the multiplicity of the food sensitizations, but because of the modifying influence of various factors upon the allergic reaction, and finally it is difficult because skin reactions have less bearing on constitutional sensitizations than in the case of the inhalant groups.

The recognition of the etiologic importance of the foods and the inadequacy of skin testing has accounted for the fact that many allergists have sought additional diagnostic aid in elimination diets, addition diets, the genetic classification of foods, as well as in the leukopenic index or the eosinophilic blood response.

It is essential to have an accurate understanding of the incidence with which food is a factor in such diseases as, asthma, perennial vasomotor rhinitis, eczema, migraine, gastrointestinal symptoms and physical and intrinsic allergy. Since in these cases there are usually concurrent inhalant sensitizations, it is of vital importance to recognize that portion of the disease pattern due to food sensitization. In order to understand the composite clinical picture of allergy due to ingesta one must be familiar first, with the factors modifying the allergenic effect of food, and second, with the duration and type of symptoms.

#### I. THE NATURE OF FOOD SENSITIZATION

The existence of a food sensitization is often overlooked, or if its presence be recognized, the

specific etiologic factor is frequently not found because the clinical and immunological nature of this allergy is such that the diagnosis may be quite complex. The more important of these features will be considered.

A. Factors Modifying the Etiologic Effect of Food: Hypersensitivity to food is subject to many modifying factors in the great majority of patients. In this respect it differs from inhalant sensitizations which exhibit rather uniform reactions after contact.

The following are the more important and definitely proved influences which are to be considered in the study of food allergy.

Symptoms may be induced by the single ingestion of a food. The reaction occurs regardless of the amount used or its preparation, although it is possible when extremely small amounts are taken for the immediate reaction to be overlooked.

In other instances the quantitative effect is observed. Some foods may be taken in small amounts but average portions are not tolerated in the diet. Again, average portions or excessive amounts will induce symptoms other than those experienced with small or average portions of the food.

Again, there is the cumulative factor. Clinical allergy not being induced until after the food is eaten more than once, or is used over a period of several to ten days. It has been quite rare in our experience to find a patient in whom no symptoms could be induced with one allergenic food until it has been used over a week. This statement exempts "latent sensitivities" to be discussed later.

The cumulative factor can be avoided by using the food at intervals and by governing the amount taken each time. This problem must be determined for each food and for each individual, and this will be more fully discussed elsewhere.

\*Read before the Shawnee County Medical Society, Topeka, Kansas, March 2, 1936.

A somewhat rare factor is the combined effect of two foods. A patient may eat either of two foods with impunity, but if they be taken together symptoms occur. This feature is to be differentiated from the cumulative factor in that it is brought about by the single ingestion or contact with two or more allergens. This same reaction is frequently induced by the combined effect of an inhalant and a food especially in seasonal hay fever patients. The importance of food sensitization in seasonal hay fever has been emphasized by Eyer mann<sup>1</sup> and others<sup>2</sup>. More recently I<sup>3</sup> have indicated its importance in co-seasonal treatment and also the value of the prescribed diet in the treatment of pollinosis.

The physical condition of the food may modify the allergic reaction. Raw foods are frequently etiologic, while the cooked forms either do not provoke an allergic response, or the reaction is distinctly modified. In some instances the cooked food alone, even without contamination by condiments, has been found to be the cause of symptoms. Similar variations may exist with fresh and dried products.

Drugs may modify the action of a food as well as increase its effect. Alcohol in any form often brings out latent sensitivities or multiplies the allergenic response.

Foods may cause symptoms at the menstrual period but are tolerated between times. A patient subject to urticaria, headache and mental depression during catamenia was free of these symptoms when given a compatible diet. The specified diet was started several days previous to and continued for three days after menstruation. All foods denied during this time were taken without symptoms in the intervening period.

The geographic source of a food may influence the occurrence of an allergic reaction. There have been reports<sup>4</sup> of patients being sensitive to cantaloupe from Colorado, but not from California. This phenomenon should be differentiated from latent sensitization which is more common, and should not be confused with the variations in clinical allergy due to the patients travels. In some cases one cannot eat a food locally, while the same product eaten in another part of the country is without allergic effects.

The practical importance of the dietary factor exists in the case of milk. It has been shown repeatedly that those sensitive to foods used in the diet of either the human or the

cow may have symptoms upon taking the respective milks.

It is frequently the case for all genetically related foods to be or to become etiologic<sup>5</sup>. For instance, if a patient is sensitive to wheat, it is common to find that barley, rye, rice and oats also cause trouble if they are used to any extent. It has been found that sensitization is complete to the botanical food families in two out of five instances in the case of eczema<sup>6</sup> while in the hay fever and asthma patients, group sensitizations are still more frequent.

Foods may lose their etiologic effect following severe shock, either mental or physical, or shock may be induced by drugs particularly morphine<sup>7</sup> in large doses over a period of time. The shock treatments to overcome allergic reactions is not without danger nor is it uniformly successful. It is at times possible for a patient to shock themselves by the ingestion of food with due regard to the amount and interval between ingestion, and thereafter they are able to take these products over a period of time. This plan of treatment has been quite successful in patients with perennial vasomotor rhinitis.

One of the most important factors in food allergy is that of latent sensitization. The patient experiencing adverse reactions with certain foods either avoids them or reduces them in the diet without being particularly cognizant of it. When skin reactions are obtained to the more common articles in the diet these foods are used and after eating them either a few days or several weeks they become a cause of symptoms. The most common instances of this is in the closely related cereals, egg and chicken meat and milk and beef. In one patient elimination of wheat was followed by ten days of relief from nasal allergy, when it became necessary to eliminate corn, which had been substituted for wheat originally; a few weeks later rye and oats had to be removed, and within a month's time rice had to be omitted.

Latent sensitivity thus represents a certain degree of tolerance for a food and with the destruction of this tolerance it becomes an active cause of symptoms. It differs then from the cumulative factor in that after symptoms have been provoked, that that particular allergen will produce symptoms upon each ingestion whereas in the case of a cumulative factor, the food may be used at the proper interval or in the proper amount re-



peatedly without difficulty. It has been shown by the leukopenic index that this latent sensitivity or partial degree of tolerance can be accurately measured and can be maintained by proper administration of the food.

It is possible that the patients who use cantaloupe from California (marketed from May until July) have developed sufficient tolerance for cantaloupe since the previous fall that they are able to use the food throughout this season without trouble, or at that very time they may have a latent sensitivity which is masked by the continual use of the food. In the interval when cantaloupe is not on the market, the patient, if he has a masked latent sensitivity, passes through a period of initial hypersensitivity following the elimination of cantaloupe, or if there is yet a certain degree of tolerance he does not have time to develop full tolerance, and when cantaloupes from Colorado (marketed in July to September) are used, regardless of which immunologic state exists, symptoms are produced.

This possibility must be taken into consideration before ascribing a geographic influence to certain foods. We have previously shown by detailed studies<sup>8</sup> that a gradual breakdown in tolerance to foods is followed by symptoms and that tolerance is built up following the elimination of these foods for a period of months.

Tolerance is a phenomenon of clinical importance. Following the elimination of a specific food there is a period during which the ingestion of this food produces greatly increased symptoms as compared to the reactions when it was used regularly. With constant avoidance of a specific food one usually passes through this period of initial hypersensitivity into a state of tolerance in six, nine, twelve, eighteen or seventy-two months. Tolerance to a food is manifest clinically by the absence of allergic symptoms and by a postingestive leukocytosis. Tolerance in some cases is absolute; that is, the food may be used in any amount over a long period of time without a recurrence of symptoms and in other cases it is relative, that is, the food must be limited as to quantity and interval to maintain tolerance. Tolerance is one of the most important features of clinical allergy and unless it is given consideration in the therapeutic program, and maintained, the patient most likely will never be much better off as far as food sensitization is concerned than

at the time of the original diagnosis. Since it is impossible to desensitize a patient to a food by subcutaneous injections the understanding of treatment as regards tolerance is of extreme importance.

B. Factors Modifying the Symptomatology of Food Allergy: Symptoms may occur within a few seconds or as late as seventy-two hours after ingestion of a food on a single occasion. While this "latent" period varies not only in different patients, and in the same individual with different foods, it is usually between fifteen minutes to four hours. Frequently migraine begins seven to ten hours after taking the specific food. The pruritus of eczema<sup>6</sup> bears a specific time relation to the ingestion of the offending foods and offers a reliable method of clinical diagnosis. In determining the interval, care must be exercised not to consider the delayed reaction as the immediate one.

An allergenic food produces an immediate reaction which varies in the time of occurrence and duration with the individual and with the food, but for the most part occurs within fifteen minutes to four hours, although in some instances particularly, urticaria, the immediate reaction has been observed as late as seventy-two hours. This immediate reaction is followed in turn by a delayed one lasting from seventy-two to 120 hours. The symptom characteristics of the two may be identical except that the immediate reaction is more often acute lasting from a few minutes to several hours and then subsiding and continuing as the delayed symptoms to the end effect of the food. These two phenomena are best studied in a controlled case of allergy where one can reproduce at will the desired reactions and they have been studied in greatest detail in patients with asthma and perennial vasomotor rhinitis.

Quite often the immediate reaction is overlooked and then the delayed symptoms appear to bear no relation to a specific food. A few examples will suffice to make this clear.

In a patient with perennial vasomotor rhinitis mild symptoms persisted after considerable diagnostic study. The patient insisted that there were no symptoms through the day but that there were attacks on certain occasions during the night and upon arising. A correlation of the diet and symptoms indicated certain foods as a possible cause of these delayed reactions.

Clinical tests made in the office indicated that between the thirty-eighth and fifty-sixth minute the patient had a distinct and free flow of mucus, sufficient that the handkerchief was used five times during this period and thereafter symptoms subsided. Clinically it was found that the elimination of this food relieved the patient of his difficulty.

Following the ingestion of egg by an asthmatic patient whose chief difficulty was coughing and expectoration he had three paroxysms of coughing between forty-two to forty-eight minutes following the meal. On each occasion he brought up a moderate amount of frothy mucus. There were no other symptoms during the immediate reaction. Fourteen hours following the test meal he awakened from a sound sleep with a severe paroxysm of coughing and production of mucus which required adrenaline for relief. If clinical observation had not been made with care the immediate reaction would have been overlooked. Then one might have felt that the eggs were not allergic and the occurrence of the severe symptoms through the night would have been difficult to correlate, since there had been apparently no immediate reaction to any food taken during the day. In this particular case the elimination of egg produced complete and absolute relief of symptoms for six weeks and upon taking egg at that time asthma was promptly reproduced and the symptomatology was identical to that described except for the relative increase in severity.

In a third instance an asthma patient was given milk and started very definite wheezing in forty-five minutes. This continued until relieved by adrenaline. About two hours after taking the milk the patient began to bring up a frothy mucus and following this there were severe symptoms of coughing and expectoration which continued for five days. In this instance both the immediate and the delayed reaction were obvious.

The manner by which a food reaches the sensitive cells modifies the allergic response. One sensitive to wheat may have asthma upon inhalation of flour, or cooking macaroni, whereas ingestion is without ill effect or produces another type of allergy. One patient is known to have asthma from inhalation of flour, having attacks when visiting in a home where flour mill dust is prevalent with south wind, but upon eating any form of wheat he has eczema and hives. In another instance

wheat dust or flour causes hay fever, whereas ingestion is without effect, while in a third patient asthma is induced both by eating and inhalation of wheat or its products.

If one consumes a given quantity of food within a few minutes the symptoms induced will more likely than not differ quantitatively from those following ingestion over a period of thirty to forty consecutive minutes. In one instance a patient would suffer severe nasal allergy if a glass of beer was taken rapidly, whereas the same amount of beer taken by sips in a half hour was without ill effect or with a distinctly lessened reaction. It is not altogether unlikely that the high incidence of allergy is influenced by the common custom of bolting one's meals.

Infection such as acute sinusitis often temporarily relieves the allergic manifestations. One patient under such circumstances found that he could eat any food without inducing vasomotor rhinitis, and as his cold improved, the allergic symptoms of itching, sneezing and rhinorrhea gradually returned. Patients with asthma are frequently made worse following acute bronchitis. Quite often new food sensitizations develop following "influenza" attacks, or they may be temporarily controlled. Secondary to extra-respiratory infections with high temperature, the allergic symptoms may subside entirely for months to years.

The duration of reaction following a single ingestion of an allergenic food varies with the type of allergy induced, being shorter with nasal reactions, where it may last from fifteen minutes to three days. In asthma it is most frequently three to eighteen hours, but in many cases is three and sometimes five days in length. In one instance we have experimentally produced attacks with pork and milk which lasted five days each and required approximately forty-five injections of adrenaline following each food. For the first thirty-six hours the patient brought up first a frothy, then a stringy mucus, following which it became purulent and finally a deep yellowish green, and as the attack subsided the expectoration cleared up and remained so until another food test reproduced the same symptomatology. In one instance hives were induced seventy-two hours after ingestion of grapes on a single occasion, they continued for ten days without further use of grapes and then subsided.

Symptoms may be modified by ingestion of an allergenic or non-allergenic food. If one will



induce nasal allergy or asthma with food and then avoid eating for six or more hours, he will find after taking food that his symptoms will increase rapidly after the meal if a non-allergenic food is taken, whereas, if the food originally inducing the allergy is repeated, his symptoms are temporarily improved and later become worse.

This delayed reaction is the clinical counterpart of antianaphylaxis. Because of this neutralization of symptoms by the self same food the patient often feels that the etiologic food is not a cause of trouble.

If a large amount of food is consumed, either rapidly or slowly, the allergic reaction is less marked than if a small amount of the same product is taken over a relatively short period of time. This is of much practical importance in the elimination of many common foods like milk and wheat or egg and potato. In one such case a patient knew that a pint of milk would induce asthma before allergic study. She was denied all milk and a week later deliberately took three drops of heavy cream thinking that such an amount would not cause symptoms. Her reactions included angioneurotic type of edema of the eyes, persistent vasomotor rhinitis for thirty-six hours and asthma of such severity that twenty injections of adrenaline were used within twenty-four hours.

C. Clinical Importance of the Factors Modifying Etiology and Symptomatology: These statements concerning the modifying influences upon symptoms refer particularly to the ingestion of a specific food and the occurrence of a reaction in patients with an average degree of sensitization.

The features of food allergy which have been fully detailed are of more than academic interest. In any given patient there will be certain foods which will produce definite symptoms and it is of importance to know the interval and duration of the immediate attack and the nature and time of occurrence of the delayed symptoms for each of these foods. In addition there is the modification of the etiologic effect of two groups of foods; first, those which have been omitted recently, and second, those which the patient had not used to any extent previous to being placed upon the diet.

In the case of the first group of foods one will note upon their purposeful or accidental ingestion the increased reactions characteristic of the early period of hypersensitivity following elimination. As time progresses the patient

eventually builds a tolerance for these foods. Then the patient has no symptoms following their ingestion and unless he has been properly instructed concerning the development of this phase of tolerance, he is likely to believe he was never sensitive to the food and is then apt to eat it in such amounts as to rapidly break down his tolerance.

With the second group of foods there is the problem of the latent sensitivities which will develop and become active sensitizations in a brief period of time and thereafter the food will not be tolerated even with occasional use until it has been omitted and tolerance has been rebuilt.

These various factors must be considered as having a bearing upon every food. Further, it must be understood that these different stages intermingle, that is, there are some foods capable of producing immediate and severe symptoms, while others do not at the time cause symptoms but if used indiscriminately will rapidly become etiologic. Finally the patient will develop a tolerance to some of the foods originally eliminated within varying periods of time, and with tolerance they are again compatible. When viewed in this light the diagnostic and therapeutic problem of food allergy will be much better understood.

#### THE DIAGNOSTIC PROCEDURE OF FOOD ALLERGY

The fact that food sensitizations are subject to many modifying influences and are variable over a period of time precludes the use of any one diagnostic measure. The methods for establishing the etiologic effect of foods includes in addition to skin testing, clinical tests and the leukopenic index, and superior results are obtained when these are used concurrently.

Skin Testing: The value and the limitations of skin testing have been sufficiently discussed by other writers, that only a brief review of the essential facts is necessary at this time.

In general, skin testing is quite accurate for inhalants, there usually being reactions in patients sensitive to epithelials, dusts and pollen. When reactions to inhalants are correctly interpreted in connection with the history they have an accuracy of approximately ninety per cent. Under the same conditions food sensitization tests have an accuracy of between thirty to sixty per cent depending upon the type of allergy being studied.

The essential consideration then, is the

general accuracy of this diagnostic measure; an accuracy which makes it impossible to "test" and determine the specific sensitizations, without subsequent clinical observation. Its prime purpose according to Vaughn<sup>9</sup>, is a means of arranging the initial therapeutic program. One thing is certain, the nearer one approaches a complete etiologic diagnosis of allergy, the lower the per cent accuracy of skin testing.

#### CLINICAL STUDIES

Clinical studies involve the correlation of the presence and the degree of symptoms in relation to specific inhalants and ingesta.

Inhalants sensitizations being less variable than food allergy they can be dismissed with a few brief remarks. The orris root sensitive individual is worse in places where orris root is used, namely; places where women congregate or in barber shops. House dust sensitive patients are worse in winter and damp days and better in summer. They improve temporarily upon leaving the house. Pollen sensitive patients are affected or their symptoms increase during the respective seasons. The influence of occupational dusts and epithelials is not difficult to suspect and then demonstrate.

Food allergy is quite complex in comparison to inhalant sensitivities. The first feature of food sensitization of importance is that of the genetic relationship<sup>5</sup>. It has been found more often than not that genetically related foods all affect the allergic individual, and this is particularly true in respiratory allergy. The second consideration concerns the clinical nature of food symptomatology. For example, in a patient with an average diet of thirty-five or forty foods the possibilities are as follows: First, foods taken at intervals could account for acute exacerbations. Second, allergenic foods taken daily would account for delayed symptoms three or four hours after each meal, minor in character as compared to the food used at intervals. Third, there may be a cumulative reaction due to the use of a food several days in succession.

In addition to the two phenomena just mentioned which must be considered in using the food charts, the development of tolerance and the occurrence of new sensitizations over a period of time, must be evaluated in every case. Any or all of these factors may play a part with one or more foods during the diagnostic study of an allergic patient.

Food diaries are indispensable in the course

of clinical studies. These diaries are of two types, the perspective record which gives one information at a glance concerning the variety of foods and the days on which they are taken, and the introspective records, those used to enumerate the presence and degree of symptoms each day. For the study of the daily variation in symptoms I<sup>10</sup> have devised a chart which is to be used in connection with Vaughn's food diary. The amount of information to be gained from these records will necessarily vary with the accuracy and acuity of observation of the patient. The interpretation of the presence and degree of symptoms must take into consideration the known modifying factors in food allergy, and the nature of the symptoms produced.

Food diaries are not only of two types, but serve two purposes. The first is to record observations which when properly interpreted will give one specific diagnostic information, and the second, is to make available to the physician information concerning the incidence and use of foods so that he can deliberately induce symptoms and thus obtain further diagnostic information. The failure to do the latter is the most likely reason that these records are not used to a greater extent.

#### THE LEUKOPENIC INDEX

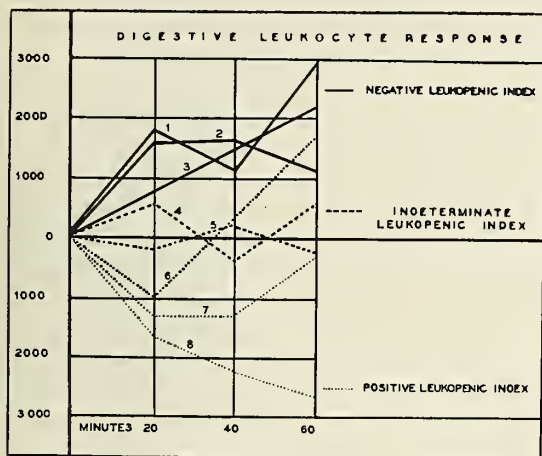
In 1934 Vaughn<sup>5</sup> studied the postingestive total leukocyte counts in a known allergic and found a generally increased count with compatible foods and a depression of the leukocytes in the presence of the allergic food. He designated this test as the "Leukopenic Index." The test as described by him involves two counts ten minutes apart before the patient eats a test food, and four or more counts at fifteen minute intervals following the test meal. Subsequently, Rinkel<sup>8</sup> described the general types of curves obtained in a large series of these counts, together with their clinical interpretation and the factors that influence the counts such as exercise, amount of food taken, its preparation and the time of consumption. Zeller<sup>12</sup> has reported upon the leukocytic indices in intractable asthma, while Gay<sup>13</sup> has made studies involving duodenal ulcer and other diseases syndromes not yet published<sup>14</sup>. Rinkel has also reported upon this test in infantile eczema<sup>6</sup>, the intractable allergies<sup>15</sup>, and the use of the leukopenic index to determine preseasonally the prescribed diet of hay fever<sup>16</sup>.

The first step in the use of the leukopenic



index is to develop accuracy in making the white count. The general technique of blood counting need not be emphasized here, other than the necessity of having equal dispersion of the cells. The correct method of checking the accuracy of counting is to graph results obtained with two pipettes run concurrently by the same technician. The results of these tests should be within 500 cells of each other, preferably less.

It is not only necessary to make unusually accurate leukocyte counts, but also to develop a standard time interval of making counts and to become familiar with the types of curves obtained in a large series of these tests. There is no normal control for these counts. If one tests the patient with seborrhea, or with trachoma he will find that they too have leukocytic responses either positive or negative, the same as the asthma or hay fever patient. The important consideration is that in the allergic individual the food that gives a postingestive leukocytosis the curves of which correspond to type one, two, and three in Fig. 1, are not a cause of symptoms at the time of the test.



Various types of leukopenic indices obtained when counts are made at twenty, forty and sixty minutes. The negative curves are obtained from foods which do not cause symptoms. The indeterminate curves are of no clinical significance. They must be corroborated by clinical tests. The positive tests are characteristic of foods producing allergy.

This statement would suggest that the test is an invaluable one and by its use all food allergies could be analyzed in a relatively short period of time. This possibility deserves further consideration.

The writer, has indicated<sup>8</sup> that the response is not stable, passing from a negative to a positive leukopenic index, or vice versa, depending upon the incidence of the test food in the

diet. These changes may occur within a relatively short period of time, or there may be practically no alteration of the curve with prolonged use of the food.

### SUMMARY AND CONCLUSIONS

Food, as an etiologic factor in clinical allergy is subject to many modifying influences, particularly cumulative and combined dosage as well as latent sensitization and tolerance. The occurrence and character of the symptoms induced are likewise subject to much variation, due primarily to immunological, rather than digestive factors.

The diagnosis of food allergy requires an inclusive and exhaustive study. This cannot be done by skin tests alone, but by their use in connection with subsequent clinical studies. The diagnostic problem is the determination of the status of every food as regards active or latent sensitization, tolerance and compatibility. It is an evaluation of how to feed the patient as well as what to feed him.

The most recent diagnostic procedure in food allergy is that of the leukopenic index. The practical use of this test is dependent upon a proved ability to make accurate leukocyte counts and to interpret them correctly upon a basis of experience with similar reactions in known cases of allergy and non-allergy.

The finding that disease syndromes as enumerated herewith can be successfully treated by dietary manipulations upon the basis of this test suggests the necessity of a broader viewpoint of allergy or an explanation for the reaction upon some other mechanism than that of sensitization.

The probability of food allergy in any given case can be eliminated only when one can demonstrate a tolerance, by means of the leukopenic index, for all foods used in the diet.

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## FACTORS DETERMINING THE TIME OF OPERATION ON PATIENTS WITH HYPERTHYROIDISM\*

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Having decided surgery is indicated in a given case of hyperthyroidism, be it a toxic adenoma, diffuse goiter with hyperthyroidism or a recurrent hyperthyroid and having placed the patient on the usual pre-operative routine, what are the criterion which determine the optimum time for attacking the thyroid gland in thyroidectomy?

Obviously the greater care given the patient in preparation, the better the response, and the condition of the patient at the time of operation will determine the success or the failure of the operative attack.

When first seen the obviously hyperthyroid patient may be extremely nervous, emotionally unstable, irritable and alert. Tremors of the extremities may be present as well as muscle weakness, shortness of breath on slight exertion, hyperhidrosis, tachycardia and possible palpitation. They may possess a ravenous appetite and in spite of the increased food intake may be losing weight due to the marked increase in metabolism. Usually the morale is poor for they understand that they may have to undergo a major surgical procedure and with all their faculties and mental processes keyed up, they are prone to worry more so than a normal or hypothyroid individual.

If on the other hand the patient is bordering on or is in thyroid crisis he may be unconscious, delirious or thrashing about in bed with an ele-

vation of temperature. Vomiting, diarrhea, edema of the extremities or ascites may be present. Also marked emaciation may be noted with signs of acidosis. This picture bodes a serious prognosis and necessitates a long and carefully planned pre-operative preparation.

In this respect it was interesting to note, quoting from the statistics of the Cleveland Clinic Hospital<sup>1</sup>, that in the past ten years, exactly one-half as many patients have died from hyperthyroidism before any operative procedure had been undertaken as have died following operation for hyperthyroidism. Of this number fifty-eight per cent of the patients who died in the hospital without operation died as a result of thyroid crisis and ninety-four per cent of the patients who died from thyroid crisis without operation were delirious when admitted to the hospital and died within five days of the time of entrance. If however they survive this reaction, their chances for recovery are good, for known to be a "bad risk" the patient receives the benefits of every precaution with a long pre-operative preparation, terminated with stage operations.

After the patient has been in bed for several days on lugol therapy, nerve sedatives in the form of sodium bromides, luminal etc., on a high caloric basic protein diet we find their morale and general condition improving. In contrast to the appearance on entrance they are much calmer and they will have lost the flush and redness of the face and upper chest. They are able to lie comparatively quietly in bed instead of tossing about and chaffing the elbows, knees and glutei on the bed sheets. The patient will declare that he has never felt better in his life and may wish to go home, thinking an operation is not necessary at this time. They begin to question, "how much longer before the operation will take place?" These are good signs and are welcomed.

Usually the maximum improvement from lugol therapy occurs from eight to twelve days and the clinical picture presented by the patient at this time can never again be duplicated. It is at this stage we begin to individualize the patient, to determine the time of operation and the type indicated.

Aside from the complicating factors of old age, duration of the disease, presence of heart disease, sub-sternal goiter and thyroid crisis with its two absolute contraindications for surgical treatment, namely persistent delirium and persistent vomiting, there are other criteria

\*Read before the Saline County Medical Society, November 20, 1935.



or factors which when present constitute warnings of an unfavorable prognosis or cause the operator to exercise more care in his judgment as to the care of the patient than he would otherwise employ. What then governs the opportune time for operation? What do we watch? What are we striving to do? What favorable or unfavorable signs cause the operator to determine that the patient is ready for operation, and is a good risk or a bad one and is not ready for operation after the above mentioned factors have been controlled?

These are the factors I wish to discuss and may be enumerated as follows: The character and response of the patient's pulse curve, pulse pressure curve, temperature curve, weight curve, the improvement of their clinical symptoms, appearance and moral and the dovetailing of the above with our first clinical impressions of the patient.

In studying the graphic chart therefore we carefully note the temperature, pulse, pulse pressure, and weight curves. If the patient is responding satisfactorily the temperature in contrast to the entrance temperature is found to be normal, where at first due to the increased metabolism of the patient it may have been elevated one or two degrees. This is not extremely important but gives us some inkling of the metabolic processes of the patient at this time. An elevation of temperature of one degree increases the metabolism 7.2 per cent and the increased metabolism results in greater heat production with subsequent further elevation of temperature. This is why it is so important to reduce the temperature of thyrotoxic patients, particularly when in thyroid crisis with refrigeration, be it in the form of an oxygen tent or ice bag packs. If the patient is still having a slight elevation of temperature with no apparent cause for the elevation it is usually wise to consider the patient's metabolism still too active and postpone operative attacks at this time. An elevation of temperature will increase the metabolism of the individual. A basal metabolism rate may be taken at this time but the B.M.R. is not a reliable guide to operability. While valuable, it is not specific, it indicates but does not identify. It gives information regarding the rate of energy transformation but tells us nothing regarding the capacity of the patient to bear that rate. For this reason the basal metabolism is seldom repeated after the initial taking.

The pulse curve is one of the most important aids in our judgment of the patient's improvement. At entrance the pulse may have been as high as 160. The first twenty-four hours will usually find a slight lowering of the pulse but not marked. The next few days find the pulse fluctuating but if the graphic chart is studied after eight to twelve days of preparation we find that the patient is responding satisfactorily if there is a steady decline in the pulse to a point where it flattens out to range in the eighties or nineties. If the pulse curve has not come down and continues to range in the 120's this should be interpreted as a danger sign and the patient given a longer preparation. If in addition the response is poor in other respects this is the type of patient on whom a trial ligation is indicated. The patient may be able to withstand a thyroidectomy or even a lobectomy in one or two stages but we do not know. A trial ligation of the superior thyroid artery can be done quickly without markedly upsetting the patient and will give us an excellent idea as to the operability or inoperability of the patient at this time. In the event the post-operative reaction due to ligation is minimal, the patient can usually be subjected to a lobectomy or thyroidectomy in from three to four days after ligation. In the event a lobectomy is done, the neck may be dressed open with acriflavin gauge and if the patient's condition is satisfactory at the end of forty-eight hours the operation may be terminated. If the patient shows by his post-operative reaction namely, by marked elevation of the temperature and pulse, by the presence of transient delirium, nausea and vomiting or auricular fibrillation, we know that sufficient surgery has been done at this time. The neck can be closed at the end of forty-eight hours and the patient after convalescing from his lobectomy is directed to return in three months for the completion of the operation. It might be well to give a warning at this point. The patient who is discharged between operations to return in three months for completion of the operation should be given iodine therapy until the operative remission is well established. It is then withdrawn so that when the patient returns to the hospital he will not have had iodine for from four to six weeks time and thereby be responsive to iodine therapy for preparation again. If no iodine is given after stage operations there is danger of the patient having a flareup of his hyperthyroidism, resulting in

crisis with its resultant sequelae. In the event a thyroidectomy is scheduled and the morning of the operation we find that the patient's pulse is elevated above its usual level, the operation should be postponed and the preparation continued until the pulse curve has responded satisfactorily. Again if the operation is begun and the patient's pulse becomes quite rapid or he shows signs of loss of morale, it would be considered good judgment to terminate the procedure regardless of the stage of the thyroidectomy. I have seen patients on whom the operation was stopped following the transverse skin incision. After a few days added preparation and the planning of a different anesthetic attack, the patients successfully underwent thyroidectomy uneventfully. When there is any doubt as to the prognosis, if a thyroidectomy is attempted, first do a trial ligation for the answer and then proceed accordingly.

The study of the pulse pressure is also of importance in determining the time for operation. When first seen the pulse pressure is high. The systolic is elevated as high as 160 to 170 and the diastolic is lowered to 60 or 40 mm.hg. and may be lower. On preoperative routine the systolic tends to fall and the diastolic to elevate so that the pulse pressure becomes less and is indicative of the strengthening of the myocardium. In the presence of a high pulse pressure at the time of the operation there is more danger of cardiac failure following thyroidectomy than there is if the pulse pressure were normal.

The weight curve also tells us much concerning the patient's metabolism and his response to preparation. At first even on the increased caloric intake the patient loses weight due to the increased metabolism. The entrance weight may be 120 and after three or four days the patient when weighed may be found to weigh 116 pounds. When rechecked at the end of a week, his weight may be stabilized at 116 or there may be an additional loss of a pound or two. However if the patient is eating the prescribed diet he is usually back to the entrance weight at the end of ten days or he may have even gained a little. When the patient begins to gain weight and with other signs favorable it is generally a good time to consider surgery. A persistent loss of weight in spite of sufficient caloric requirements is indicative that the metabolism is still too active for surgical intervention.

The morale of the individual is of utmost

importance and should be guarded. Every effort possible should be exerted by the personnel of the hospital to uplift the morale of the patient. The persons with whom they come in contact should be optimistic and the surroundings must be pleasant and encouraging. It is very detrimental for a hyperthyroid case to be associated with other surgical cases who are having a stormy convalescence. However it is quite helpful for them to have access and converse with patients who are convalescing uneventfully. A person with a good morale will overcome obstacles that one with a lower one would succumb. If the morale is poor the preoperative response will be markedly retarded.

Of course we must not lose sight of the most important adjunct in determining when the patient is ready for operation. Namely—our interpretation of the patient's condition by the clinical appearance. Many times the above observations will indicate that the patient is ready but something in the makeup of the individual will cause the operator to delay and wisely. A good rule to follow in the management of "bad risk" cases is, when we first see the patient and have completed our examination, having all the clinical and laboratory data at hand, it is well at this time to make a mental reservation as to the time we feel the patient will be approximately ready for operation and which procedure is indicated, be it ligation, lobectomy or sub-total thyroidectomy. We must then stand by our decision even if the patient responds exceptionally well and is ready by all the clinical signs before the allotted time. For example—If our first impression is that the patient will not take more than a lobectomy and after the usual preparation, even though we feel he may take the entire thyroidectomy it is much safer for the patient and fewer post-operative complications will arise if we follow our first impression.

Obviously if any complicating disease is present it must be controlled before attempting any surgical procedure. If the patient is fibrillating he must be digitalized and controlled from the cardiac viewpoint. If kidney damage is present the function should be improved by intravenous glucose and dietary regulations and then minimum surgery must be carried out so that the kidney functions will not fail. If diabetes is present it must be controlled. If the patient presents edema due to lowering of the serum proteins with the reversal of the albumin and globulin ratio, repeated blood transfusions



are in order to control and regulate this condition. As stated before the only cases refused operation are those with persistent delirium or persistent vomiting and diarrhea.

I wish to mention here a certain group of patients that are extremely "bad risks" and respond poorly to our pre-operative preparations. This particular type you have all seen. It is the elderly individual with a long history of toxicity of the thyroid with some degree of hypertension, kidney and myocardial damage and who are still quite active hyperthyroids. A very helpful adjunct in this type of case is the giving of radiation to the thyroid gland along with iodine therapy to obtain remission. The patient may then be operated in the remission after adequate preparation.

In recapitulation it is necessary to point out the impossibilities of the setting up a routine which is applicable to the management of all cases of hyperthyroidism as each patient presents a different problem. Some being complicated by old age, extreme youth, presence of heart disease, substernal goiter, thyroid crisis or the presence of other complicating organic diseases such as diabetes, hypertension and arteriosclerosis. In each group however there are common factors present such as the character and response of the patient's pulse curve, pulse pressure curve, temperature curve, weight curve, the improvement of the clinical symptoms and increasing of the morale which when analyzed and dovetailed with our first clinical impression will give us a very excellent idea of the opportune time for the operation and the type of operation. In cases of doubt do the minimum operation.

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—JKMS—

The wisest psychology will never replace quinine and mercury in the cure of certain diseases, nor can it obviate the necessity of operative procedure for a perforated appendix.—C. F. Martin.

—JKMS—

Were it not for the poverty of the soil in defensive essences, the seeds of disease would never grow.—Leonard Williams.

—JKMS—

Weariness without cause indicates disease.—Hippocrates.

## PRE-CANCEROUS DERMATOSES

J. G. MISSILDINE, M.D., and

J. V. VAN CLEVE, M.D.

Wichita, Kansas

According to the cancer survey in Kansas by Dr. Frank L. Rector in 1932, the total number of adult patients admitted in that year to the forty-three hospitals surveyed was 48,815, of which 1,399 or 2.8 per cent were for cancer. Of this number 18.6 per cent of the cancer patients died in the hospital, while death from all admissions was but 5.4 per cent. These comparative figures tend to show that cancer patients are being seen too often in the late stages of the disease. This would lead one to believe that pre-cancerous lesions are being overlooked, or that treatment has been insufficient.

The term "pre-cancerous" is attached to a group of skin manifestations which, if followed to the end-product of their development may result in malignant degenerative tumors of the skin. A great many lesions, such as verruca seborrhoea and keratosis senilis, although clinically benign, already show malignant degeneration of their cellular constituents when we examine them under the microscope. Included in this group are keratosis senilis, verruca seborrhoea, leukoplakia, radio-dermatitis, xeroderma pigmentosa, cornu cutaneum, the pre-cancerous melanoses, kraurosis vaginae, and Bowen's pre-cancerous dermatosis. With the exception of Bowen's disease all the above are truly pre-cancerous. Recent investigation tends to show that this disease starts as true cancer cells, and should be excluded from the pre-cancerous classification. Other investigators contend that many cases are on record in which malignant degeneration occurred only years after the first appearance of the disease, and that it should continue to be considered as pre-cancerous.

As physicians, we are all constantly bombarded with questions from patients in regard to potential malignancies they have, or think they have, and so it behooves us to be capable of recognizing and treating the numerous pre-cancerous dermatoses as well as those lesions which have undergone malignant degeneration.

#### THE PRE-CANCEROUS DERMATOSES

1. Keratosis senilis: Hazen and others have estimated that about five per cent of senile



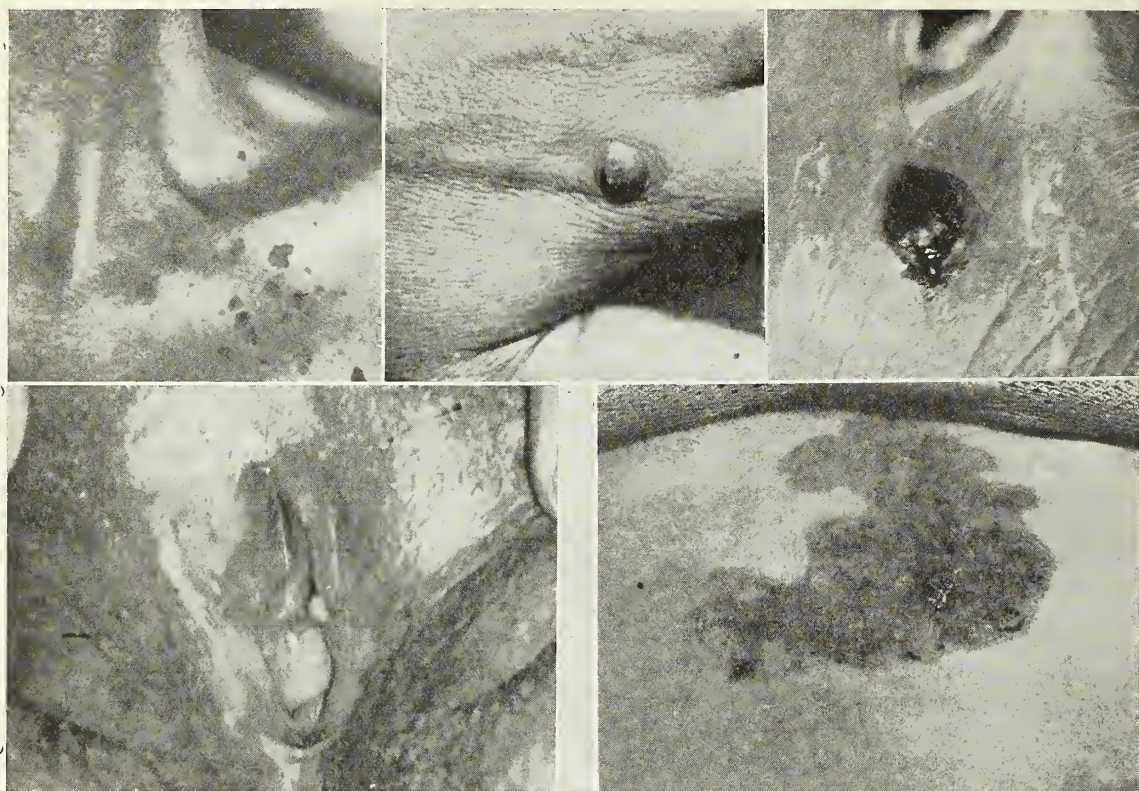


Fig. 1. Seborrheic keratoses of chest and neck. Fig. 2. Cornu Cutaneum of the dorsum of hand. Fig. 3. Melano-Carcinoma of Neck. Fig. 4. Kraurosis vulvae showing atrophy of the labia minora and leukoplakia. Fig. 5. Bowen's precancerous dermatosis of the abdomen.

keratoses undergo epitheliomatous changes. These lesions are most commonly seen on patients over forty years of age having a florid, ichthyotic skin, and constitute one of the factors that make up the clinical condition known as "old age atrophy of the skin." They usually present themselves as hyperkeratotic, rough, hard, elevated patches with ill-defined borders, usually numerous and widely disseminated over the face and hands. With the appearance of an inflammatory border of the lesion, one should immediately suspect a malignant growth.

Senile keratoses are easily and safely destroyed by electro-desiccation. By the surface application of the monopolar current, the lesions and a small margin of normal skin are desiccated. Following removal of the desiccated tissue with a curet, the current is applied to the bed of the wound. This treatment is usually followed by one intensive treatment with roentgen rays or radium to insure a non-recurrence.

2. Seborrheic keratoses: This type is the most common of the keratoses. The lesions are sharply circumscribed elevations of the skin

from one to three centimeters in diameter, covered with irregular, furrowed masses of brown or blackish horny material having a high sebaceous content. These masses can be easily curetted away, leaving behind an oozing, hemorrhagic surface. These little tumors occur most often on the back, breast, or face in persons over forty years of age and when they become malignant, usually give rise to the basal cell type of epithelioma. Treatment is the same as described under senile keratosis except that irradiation is not so drastic or essential.

3. Leukoplakia: Irregularly shaped white or milky patches and streaks are frequently seen on the lips, buccal mucosa, and on the tongue. They appear to be very similar in origin, course and sequelae to keratoses of the skin. They may develop considerable thickening, warty excrescences, fissures and cancers. Although the cause is not clearly established, irritation of long standing is, without doubt, an exciting factor. The use of tobacco and alcohol, digestive disturbances, dental caries, pyorrhea, infected salivary glands, and syphilis have all been indicated as contributory causes.



Treatment of leukoplakia should first of all be directed toward obtaining health of the mouth, gums and teeth. There is no agreement on the treatment of the lesions themselves, but the use of the radium plaque and the destruction of the lesions with electric desiccation are the two most favored methods.

4. Radio-dermatitis: This condition may be produced either by one massive overdose or by the cumulative effect of repeated small doses of roentgen rays or radium. The sequelae usually appear in the following order: Pigmentation, telangiectasia, keratoses, ulceration, and, in occasional cases, carcinoma which develop in the ulcer bed. The treatment of choice is complete surgical removal. Keratoses should be destroyed by some form of high frequency current, preferably electro-coagulation. If the area is large, removal should be followed by a full thickness skin graft.

5. Xeroderma pigmentosa: This rare affection begins in the first or second years of life as erythematous areas on the uncovered portions of the body, but particularly on the face, and is due to a congenital hypersusceptibility to ultra-violet light, probably owing to some deficiency of the protective mechanism. These erythematous areas enlarge and become pigmented, and due to coalescence of the freckle-like lesions, the entire face is dappled with pigmented spots of various tints of brown, mingled with white atrophic patches and telangiectases. Keratoses and vascular epithelial neoplasms complete the picture. No treatment is curative. The symptoms of the disorder may be ameliorated by the avoidance of exposure to sunlight and by the proper and early treatment of the skin growths as they develop.

6. Cornu Cutaneum: These are peculiar horny growths which are characterized by excessive and progressive keratoses. They are most frequently found on the face and scalp and less often on the buttocks, penis, scrotum, and nails. The surface shows fine linear markings corresponding to the spiral windings of the horny layers. In patients over fifty years of age, where irritation has taken place, the warty base may assume malignant changes. The treatment consists of removing the horn surgically for biopsy, followed by thorough desiccation of the base. The histo-pathological findings will determine whether or not irradiation is indicated.

7. Pre-cancerous melanoses: Although any mole may be the site of malignant change, usually only certain clinical types are apt to

develop into melano-carcinomas. This type is the bluish black or slate black mole, which as a rule is non-hairy. When flat it has been called "malignant lentigo." In the mole which is a potential melano-carcinoma, both the pigmented and non-pigmented naevus cells are of ectodermal origin. This type of cancer often rapidly metastasizes and the disseminated tumors, while usually pigmented may be without pigmentation.

The treatment of the slate black or blue black moles requires serious consideration. They are always a potential source of danger, and the prognosis even with the most radical therapy is uncertain. We are of the opinion that if they are located in areas not subject to irritation and if they show no signs of growth, it is safer to leave them untreated. When removal is indicated, wide excision should be made by means of the high frequency knife extending deeply in the fat to the muscle and fascia, and removing this tissue without manipulation of the mole. Any attempt at conservative treatment in these cases usually leads to metastatic melano-carcinomas. Irradiation alone is contraindicated and should be used only following thorough surgical removal.

8. Kraurosis vulvae: This is an atrophic condition of the external female genitals leading to a shriveling of the parts and leukoplakic patches on the mucosa. The condition usually occurs in persons past middle age, and is accompanied by intense local pruritis. Atrophy of the labia minora is one of the first signs, following which the clitoris and vagina become shrunken and devitalized. The process may extend to involve the perineum and gluteal creases. The areas become excoriated, eczematous and nodular, and not infrequently become the site of carcinoma. In early cases fractional doses of x-ray are generally effective, but in the more advanced ones complete surgical excision of the parts, followed by plastic work necessary for good genital drainage, is the method of choice.

9. Bowen's pre-cancerous dermatosis: A chronic affection characterized clinically by the formation of single or multiple, papulo-squamous, eroded or crusty, hyperkeratotic, tumor-like lesions of the skin. Exceptionally the lesions may take the form of the flat, plateau-like cellular infiltrations of a true papillomatous form. The diseases usually occurs after forty-five years of age, and as many as twenty years may pass before the lesions

cause any particular annoyance. Many investigators consider it in reality a histological entity which should be classified as an intra-epidermal carcinoma. The lesions either remain in the epidermis indefinitely or break through the corium, becoming prickle cell carcinomas.

Early surgical removal by the high frequency knife or thorough fulgeration is advisable, followed by massive doses of roentgen rays or radium. This type is very resistant to radio therapy and small doses only tend to stimulate and produce a further radio-resistance.

#### COMMENT

Cancer mortality has been considerably reduced by educational propaganda aimed at both the lay and medical publics. It is well known that most cutaneous neoplasms develop on an antecedent lesion or defect. The point to be emphasized here is that early recognition and proper treatment of pre-cancerous lesions will substantially reduce the incidence of this dreaded disease. Obviously, it is difficult and often impossible to detect such lesions of the viscera, but those of the skin or orificial mucosa can be easily recognized and most of them can be successfully treated.

### A NEW DEPARTURE IN THE TREATMENT OF THE TYPHOID GROUP INFECTIONS

MILTON O. NYBERG, M. D.

Wichita, Kansas

The typhoid group of organisms are susceptible to mercurial antiseptics. Typhoid, para-typhoid "A", para-typhoid "B", and colon bacilli lose their motility and become inactivated in rather high dilutions of bichloride of mercury and cyanide of mercury.

Since the advent of mercurial salts of antiseptic value, which are well tolerated by living animal tissue, I have been interested in the treatment of systemic infections of various sorts with some of these drugs.

There is a wide variance in the susceptibility of various organisms to a given antiseptic. During the years, 1921, 1922, and 1923, I experimented with mercurochrome "220" in the treatment of gonorrhea in men and women. All types of cases were treated, including

urethritis, vaginitis, prostatitis, epididymitis, salpingitis, endocervicitis, and even gonorrheal arthritis, with varying dilutions of the drug, varying from one per cent to five per cent. It was rather remarkable how well the tissues tolerated mercurochrome "220".

Using broth cultures of typhoid, para-typhoid "A" and "B" and colon bacilli, it was found that these organisms lost their motility and died when dilute aqueous solution of mercurochrome "220" was added to the cultures. This suggested to my mind that actual cases of typhoid and para-typhoid "A" and "B" could be safely treated by intravenous injection of mercurochrome "220".

While typhoid infections are much more rare than in the old days before preventive medicine practically halted them, there is still a mortality rate that can be much improved.

The technique I have used in the treatment of any of the typhoid group is as follows: When the diagnosis of typhoid, para-typhoid "A" or "B" is established, give the patient ten cc. of one per cent solution of mercurochrome "220" administered very slowly, intravenously.

Give one three gr. enteric coated tablet of mercurochrome "220" every four hours, per os.

Eight hours following the intravenous injection of mercurochrome "220", 1200 cc. of normal saline is given intravenously. The saline solution is given very slowly. Never less than one hour should be consumed in administering this amount of normal saline intravenously.

We repeat this treatment daily for three days and continue the mercurochrome enteric coated tablets two weeks longer before stool cultures are made; the tablets are continued longer if stools remain positive for typhoid or para-typhoid organisms.

#### REPORT OF TWO CASES

Case No. 1. C. S., female, age fifty-five, widow; occupation, practical nurse in tuberculosis sanatorium; had had previous attacks of appendicitis; has one grown child.

Patient went to Texas on vacation, and was gone two weeks. She returned to work but did not feel well. Had pain in right lower quadrant and some nausea, some tenderness over appendix. Temperature 100 degrees F. to 101 degrees F. She was sent to the hospital and the blood and urine examined. Leukocyte count, 6,000; urine negative. The attending surgeon removed



her appendix, which was injected and swollen, as were the small intestines. Peyer's patches markedly inflamed and typical of typhoid infection; Widal reaction positive and stools contained typhoid bacilli.

The patient had a very stormy time. Her abdominal wound became infected and drained profusely and she was seriously ill. She was given mercurochrome intravenously and 1,000 cc. normal saline solution subcutaneously. This was repeated once. Abdominal wound was irrigated with mercurochrome twice daily. She improved at once and made a complete recovery.

Case No. II. Male, age thirty-five, married, no children; occupation, draftsman in local airplane factory. Patient had been away to Jefferson City, Missouri, helping take care of his father who had been ill with a peculiar disease, which was diagnosed, one day prior to death, as typhoid.

Two weeks following his return, he suddenly became acutely ill. The patient was semidelirious, and complained of severe headache and weariness, was restless and appeared toxic. Temperature, 103 degrees F.; pulse, seventy; abdomen distended; bowels constipated. With the history of having been in contact with his father who had recently died of supposedly typhoid fever, I immediately sent him to the hospital. Widal was positive for para-typhoid "B".

The following morning the patient's temperature was 105 degrees F., pulse seventy, and he was unconscious and could not be roused. Mouth was dry, eyes remained partly open, and respiration slow and labored. Patient could not be given water, as he could not swallow. The situation appeared grave.

Ten cc. of one per cent mercurochrome solution was administered intravenously, followed in eight hours by 1,200 cc. normal saline intravenously. The following morning the temperature had dropped from 105 degrees F. to 100 degrees F. The patient was conscious, would take liquids and nourishment. The same treatment was given on the second day. There was no reaction noted. The morning of the third day the patient's temperature was ninety-nine degrees F. and he was feeling fine. Three grain enteric coated mercurochrome tablets were given per mouth q. i. d. Solid food was permitted. The patient's temperature and pulse were normal on the fourth day and remained so thereafter.

The patient developed a toxic psychosis which persisted for several days but made a complete recovery within a week. There were no untoward results from the treatment whatever.

I am hopeful that this treatment will be tried in a large series of cases, as I believe it is of value in the early treatment of the typhoid group. There is some danger that larger doses of mercurochrome "220" administered during the second or third week of typhoid fever, might produce hemorrhage from Peyer's patches; however, hemorrhages may occur without its use. I would not hesitate to use the treatment in the second or third week.

## MALIGNANT THYROID ADENOMA IN THE LUNG CAUSING EMPYEMA\*

J. E. WOLFE, M.D.

Wichita, Kansas

Mrs. M. H., age thirty-eight, made an office call November 8, 1934. She complained of cough and expectoration of blood-tinged sputum. No tubercle bacilli were found. In February 1935, the patient had a cold and sore throat. She thought there was something wrong with her heart. Pulse rate was seventy-eight, after exercise there was some shortness of breath. No murmurs and no irregularity of rhythm were noted. Eight months later the patient showed a text book picture of clubbed fingers and a diagnosis of bronchiectasis was made. There was a board-like flatness over the lower lobe of the left lung. The cough had taken on the brassy characteristics of aneurysmal cough suggesting the possibility of mediastinal tumor. The Wassermann test on serum was negative. The x-ray picture showed what appeared to be some fibrosis in the pleuro-costal angle. The heart did not appear abnormal except for a slight bulging of the upper left border suggesting a tumor behind the heart. The aortic arch appeared normal. A slight fibrosis showed around the right hilus.

From July to October 1935, the patient had lost eleven pounds. She complained of severe pain in the left side of her chest and was spitting up a large amount of greenish sputum. The temperature during the past week had been normal except one day when it rose to 100.

\*Presented at the December 9, 1935, Staff Meeting of St. Francis Hospital, Wichita, Kansas.

On October 17, the patient complained that she could not lean back against a chair without feeling the pulsation of her heart beat against her back. She had trouble in swallowing fresh bread, while dry or finely divided food could be swallowed without effort. In November, pain in the mediastinum and left chest became so severe that the patient was no longer able to come to the office. She had a few attacks resembling paroxysmal tachycardia and the cough and the flatness in the left chest peristed. X-rays were made on November 27 which showed the left side of the chest opaque. The patient's white blood count on this date was 32,000. The left pleural cavity was aspirated and a few drops of very thick pus were obtained. A diagnosis of empyema was made and the patient was sent to the hospital for thoracotomy. When the first x-ray was made, the patient's husband had been warned that there was some possibility of mediastinal tumor. The father of the patient had died from some type of mediastinal malignancy.

Two weeks before the patient entered the hospital, expectoration had ceased and there was severe pain associated with fever, nausea and vomiting. It is quite likely that at this time a perforation of a bronchus into the left pleural cavity occurred, causing empyema. Perforation was proved by the expectoration of Dakin's solution used after thoracotomy for irrigation of the pleural cavity.

At the time of the thoracotomy, some thick pus and a large amount of thick, tissue like material was obtained. Because of the constant

fear of carcinoma, some of this tissue was sent to the laboratory for examination. The two pieces from the pleural cavity were six centimeters and 1.5 centimeters long respectively. They had the appearance of brain tissue. Paraffin sections showed an atypical glandular structure. There were small acini filled with eosin-stained colloid and lined with cuboid and columnar cells. The epithelial cells varied somewhat in size and staining quality and few mitotic figures were found. At the surface of both specimens necrosis of tumor tissue with leucocytic infiltration was noticed.

Histologic diagnosis: Malignant thyroid adenoma.

Examination of the patient's neck did not reveal any swelling or tumor of the thyroid gland. While clinical examination cannot exclude definitely a small primary tumor in the thyroid, it seems more likely in our case that the tumor originated in an aberrant mediastinal thyroid. Various writers point out, that aberrant thyroid tissue has a greater tendency to become malignant than does the thyroid gland in normal location. Epithelial malignancies occur in about one to three per cent of goiter patients. According to Crile, Dinsmore, Graham and Hertzler ninety per cent of malignant goiter develop in fetal adenomas. Metastases in lung and pleura are less common than those in bone.

The treatment of metastatic thyroid carcinoma in lung and pleura can hardly be anything but symptomatic. The prognosis in our case seemed so hopeless that we did not advise x-ray

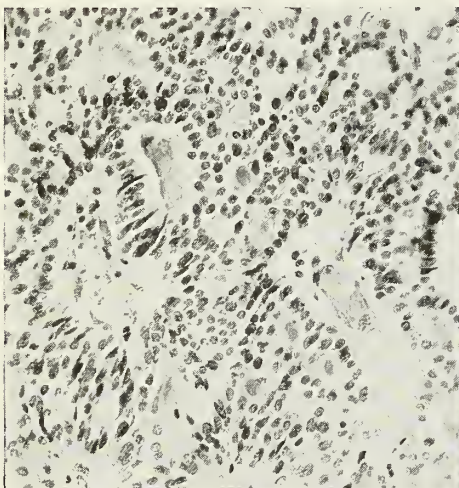


Fig. 1. Microscopic section of tissue removed from left pleural cavity. The tumor is composed of small acini, filled with colloid. x300.

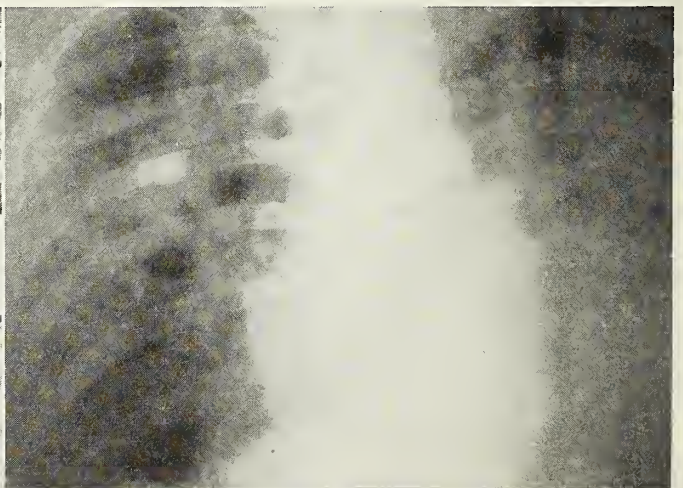


Fig. 2. X-ray, made on dismissal of patient. The lower part of the left chest is cloudy. The mottling in the upper part of the right lung suggests matastases in the right lung.



therapy. Probably the most important problem in this case is the prevention of the family from sacrificing their finances completely by patronizing cancer quacks.

## A CONGENITAL HEART DEFORMITY\*

J. G. EVANS, M.D.

Kansas City, Kansas

Patient was a white man, age twenty-one, who entered the Lutheran Hospital with chief complaint of cold, headaches, dizziness, and tingling of arm and feet, of four days duration.

### FAMILY HISTORY

No history of tuberculosis, Bright's Disease, venereal diseases, insanity, alcoholism, hypertension or any anomalous condition could be elicited. No cardiac involvement of any type existed in the family. Mother and father are both living and well. Patient was the only child in the family.

### PAST HISTORY

Patient was cyanotic since birth and he managed to survive the usual childhood diseases with no complications. He gave no history of ever having had rheumatism or chorea. As a child he enjoyed the usual childhood games without any great mental or physical effort. He attended the neighborhood school and took an interest in his surroundings and the persons about him. The patient was ambitious, energetic and passed through grade school and high school with ease. His scholastic standing was that above the average student. His object in life was to be a druggist. He enrolled in a local College of Pharmacy and successfully passed all requirements without any difficulties. He received his Ph.G. degree and immediately sought a position as a registered druggist. Unfortunately, the patient was unable to find employment because at each place he applied he was rejected due to the blueness of his lips, skin and finger nails. Still the patient was not discouraged but was determined to realize his ambition of being a proprietor of a drug store. Prior to his death the patient asked his father for a loan so that he could start a pharmacy of his own. Two weeks previous to his illness the patient with four or five companions went to Columbia to see a basketball

game. The party was out all night and drinks were passed. The patient became short of breath and his companions placed him near a window after which he recovered almost immediately.

### PRESENT ILLNESS

Patient was in fairly good health until ten days ago at which time he took cold and sought the advice of a chiropractor who gave him no relief of his symptoms which continued to become progressively worse. The present attending physician first saw the patient about five hours prior to his death. The patient had spastic paralysis of both lower extremities, numbness and tingling of the left upper and both lower extremities for the past three days. Patient had been complaining of severe headaches for the past four days and was in a comatose condition when first seen five hours previous to his death.

### PHYSICAL EXAMINATION

On physical examination we found a white male, twenty-one years of age, weighing about 110 lbs. and measuring five feet three inches. Patient was in a poor state of nutrition and poorly developed muscularly. He was a pyknotic stature and slightly underweight. He did not respond to questions asked and was not orientated as to time, place or person. The body was in an opisthotonos position with the eyeballs rolled up. Pupils were dilated and irregular. The vermillion border of the lips was markedly cyanotic dry and scaly. Brudzinski was positive, Kernig was positive, ankle clonus was bilaterally positive. Knee kicks were both hyperactive. Skin, finger and toe nails were markedly cyanotic. Toes and fingers were distinctly clubbed. Finger and toe nails were soft, elongated and curved. T. 100 degrees (R) Pulse 80; Resp. 20; BP. 110/90. Pulse was regular and of good volume. A systolic thrill was palpable over fourth interspace to the left of sternum. A loud systolic mummur was audible left of sternum from the second to the fourth intercostal space (Roger's Mummur). The second pulmonic sound was weak. No mummur was audible to the right of sternum. P. M. I. was in the sixth right intercostal space edge of sternum. A soft blowing mummur was heard along carotids. Abdomen was negative.

### LABORATORY

Spinal fluid was negative. No urinalysis, Hb, RBC or WBC was made because the pati-

(Continued on page 207)

\*Presented before the St. Louis Medical Society, February 4, 1935, St. Louis, Missouri.

## PRESIDENT'S PAGE

To the Members of The Kansas Medical Society:

If your President might express his strongest wish, it would be for every Kansas member to take fullest advantage of the many scientific opportunities available to him at the Kansas City meeting of the American Medical Association.

If you have neglected to comply with the fellowship requirement for registration, you may still do so by filing an application when you arrive at the meeting.

If you have overlooked forwarding your 1936 Society remittance, have your secretary telegraph the central office that it has been received. They will arrange by telephone to have your registration honored.

If you do not have hotel reservations, rest assured that the local committee will assist you in finding some kind of suitable accommodations.

If you have made all arrangements, let nothing keep you away.

H. L. SYNDER, M.D.



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## EDITORIAL

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### THE A. M. A. MEETING

All indications are that Kansas will establish an excellent registration record at the American Medical Association meeting to be held in Kansas City, Missouri, on May 11-15.

Present membership of the Society is 254 more than at the same time in 1934 and 140 greater than at the same time in 1935; reports from A. M. A. show that Kansas fellowship applications have substantially increased, and other interest in the meeting is evidenced in all parts of the state.

In our opinion, this interest is a worthwhile tribute to the desire of the Kansas profession for scientific advancement. No professional gathering is able to offer more in that direction than the meetings of the national organization, and Kansas apparently intends to give fullest response to the opportunity afforded by the accessible location of this year's meeting.

If you have not as yet completed plans to attend, we believe your decision to do so will be amply repaid.

### THE NEW SURGEON-GENERAL

Dr. Thomas Parran, Jr., who became Surgeon-General of the United States Public Health Service on April 6, as the successor of Dr. Hugh S. Cummings, is a popular choice among Public Health officials. His record as an aggressive sanitarian won the recognition of President Roosevelt when he was Governor of New York and his work in that state has been rewarded by the national appointment.

"Time", for April 6 reports that the new Surgeon-General wants socialized medicine, with free drugs and hospital service for every

inhabitant of the United States who cannot afford them.

The Public Health Service is a minor department of Government organized under the Treasury Department. "Public Health assayed on the scales of finance," as Dr. James Warbasse has commented, will be found a difficult place for a young man with the ideal in mind to extend medical service to all those who are unable to pay for it. It is our prediction that Dr. Thomas Parran, Jr., with responsibilities to the experienced politicians surrounding him, will not spend government money on furnishing medicine, hospital and medical service to the indigent of the country.

### LYMPHOPATHIA VENEREA

Dr. Collier F. Martin, in the February issue of *The American Journal of Digestive Diseases and Nutrition*, relates an unusual experience covering thirty years in the rectal clinics of Philadelphia. He states that during all this time many cases of rectal stricture were observed which in the earlier years were ascribed to syphilis, gonorrhea, colitis, and those of unknown origin. It was recognized that the majority of these strictures were in the female and that negroes were particularly susceptible. It was not until 1932 that he began to think of these cases, with their curious sequelae, as due to the disease then called *Lymphogranuloma Inguinalis*. Because *Lymphogranuloma Inguinalis* was so frequently confused with *Granuloma Inguinalis*, Wolf and Sulzberger, about that time, suggested the term, *Lymphopathia Venerea* as indicating more accurately the type of pathology. The condition is identified as a venereal disease by the primary genital lesion associated with inguinal adenitis. Associated with this are the inflammatory conditions of the anus and rectum, often multiple anorectal fistulae, recto-vaginal fistulae and the formation of stricture

of the rectum, more frequently encountered in the female. Genito-rectal elephantiasis and esthiomene are of frequent occurrence in both male and female. In 1925 Frei developed a skin test which is believed to be specific. Martin has been able to obtain positive reactions in 96.7 per cent of cases. The susceptibility of negroes raises the question whether this is due to the co-existence of other venereal diseases so commonly observed in negroes or to the racial difference described by Rosser as the fibroplastic diathesis. Certainly the tendency toward keloid changes in the skin and massive developments of granulomatous tissue which predominate in negro patients suggests a relationship.

There has been no effective treatment for this disease. Because of its chronicity and disabling effects and because the vast majority of cases are found among the poor the care of these patients is a serious economic problem in communities where it is prevalent.

With the increased interest in Lymphopathia Venerea among physicians of this country we may expect a great increase in the number of cases reported. The Journal should be glad to receive case reports from Kansas physicians who are having under their observation patients afflicted with this disease.

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## MEDICAL SCHOOL CLINIC

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### DRAINAGE OF APPENDICEAL ABSCESS THROUGH THE VAGINA

MAURICE A. WALKER, M.D.\*

Kansas City, Kansas

A girl, aged twenty-three years, was admitted to St. Margaret's Hospital on October 24, 1935. Her history and physical findings were typical of acute appendicitis with perforation and abscess formation. On October 16, she had had cramping pains in the epigastric

and umbilical regions which ceased within twelve hours. An aching pain with pronounced tenderness then developed in the right lower quadrant of the abdomen. She had vomited once, on the first day of her illness. Treatment at home had consisted of the application of heat to her abdomen, restriction of fluids, and the use of laxatives twice daily; magnesium sulphate each morning, and two Hinkle's pills each evening. Under this regime the tenderness in the right lower abdomen continued, and her abdomen gradually became distended. She did not vomit again. On the day she entered the hospital, she had a chill, and her mother noticed that she had a high fever.

When examined, her temperature was 103.2 F., and pulse rate, 126. Her lips and tongue were dry. Her abdomen was moderately distended. The entire right lower quadrant was occupied by a tender doughy mass, which could also be felt from the rectum, high above the fundus of the uterus. There were 28,500 leukocytes in each cubic millimeter of blood; of one hundred counted, ninety-six were polymorphonuclears, and four were small lymphocytes.

Treatment consisted of restoring fluids to her body subcutaneously and intravenously, and in attempting to aid in the localization of the inflammation by the application of stupes to the abdomen and by maintenance of a semi-erect posture in bed. Her temperature ranged between 99.0 and 103.0 F., with the pulse rate between 96 and 128 for five days. Then the mass could be definitely outlined as a round fluctuant tumor, extending upward in the right lower quadrant of the abdomen to the level of the umbilicus, and protruding into the cul-de-sac, pushing the cervix forward. The wall of the vagina was edematous in the posterior fornix.

On October 29, using spinal anesthesia, an incision was made through the posterior wall of the vagina, releasing about 1500 c.c. of foul-smelling yellow pus. A large rubber tube was inserted into the abscess cavity. During the next few days, the temperature and pulse rate decreased, and the mass gradually became smaller. The tube was removed on the eighth day, and she was allowed out of bed. She left the hospital on November 9, eleven days after incision of the abscess. She was examined again on February 15, 1936. She had had no more

\*Department of Surgery, University of Kansas School of Medicine.



fever or abdominal pain or cramps, and had regained most of the weight lost during her illness. There was no abdominal tenderness. By abdomino-rectal palpation, some induration could be felt in the region of the right broad ligament.

#### COMMENT

During the past few years, various reviews of mortality rates from appendicitis have aroused considerable discussion as to when to operate in this condition. Little has been said or written about how to operate. It is certain that, after an abscess has formed, any procedure for draining it is decidedly less dangerous if contamination of the general peritoneal cavity can be avoided. Incision through the posterior wall of the vagina is commonly done for abscesses that follow infections of the adnexae and for pelvic abscesses that develop after operations for acute appendicitis. The case reported illustrates the occasional possibility of safely draining a primary appendiceal abscess by this route, with recovery from all symptoms following this simple procedure.

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## LABORATORY

Edited by J. L. Lattimore, M.D.

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### THE RELATIVE IMPORTANCE OF BACILLARY DYSENTERY AS A CAUSE OF DIARRHEA

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The typhoid bacillus has been given a prominent place as an etiological factor in intestinal disturbances, but there has been a tendency to group all gastro-intestinal infections that can not be diagnosed as typhoid or paratyphoid fever into a group indefinitely designated as colitis, gastro-enteritis, "intestinal flu" and "summer complaint" without consideration of the possibility of bacillary dysentery infections. This tendency may be due to the fact that the long complicated process necessary for the isolation and classification of dysentery bacilli frequently consumes a longer period of time than the course of the disease. For this reason

the Public Health Laboratory has adopted the policy of reporting these organisms as members of the general dysentery group, (gram negative, non-motile rods fermenting dextrose without the production of gas) as soon as they can be classified in one of three main groups similar to the English classification. These groups are: I. Shiga, which includes the types Shiga and Schmitz's bacillus; II. Flexner, which includes the types Hiss, Harris, Strong, Flexner, and the types which the English bacteriologists designate as V, W, X, Y, and Z; III. Sonne, which includes the lactose fermenting types Sonne and Dispar. The use of polyvalent, group agglutinating serum and special carbohydrate media makes it possible to place the organism in one of these three groups in about the same time required for isolation and identification of the typhoid bacillus.

Symptoms of bacillary dysentery may vary from slight abdominal disturbances of short duration to severe intestinal pains, diarrhea, fever, nausea, and prostration, which may become chronic or terminate in death. Certain of the dysentery types are considered more virulent than others, and there is also great variation in individual susceptibility. Shiga, Sonne, and Flexner are the most virulent while Schmitz's bacillus is variable, <sup>(1)</sup> and Dispar and Alkaescens are considered of questionable pathogenicity. There are probably at least forty-five different strains of dysentery bacilli, some of which will not agglutinate with standard type sera. This reduces the reliability of the agglutination test as a diagnostic aid since a negative agglutination may be obtained in an actual case of bacillary dysentery if the laboratory does not include in its test antigen a strain similar to the one causing the infection. A number of writers have reported agglutination for dysentery bacilli by the serum of apparently normal individuals which will also render this test of little diagnostic value, but it is possible that these reactions have significance, because they may be persistent convalescent reactions following a mild case of bacillary dysentery. The most valuable use of the agglutination test is in determining the etiological significance of a specific organism isolated from the stool by agglutinating it against the patient's serum.

The presence of blood and mucus in the stool is very suggestive of bacillary dysentery, and stool cultures taken as early as possible in the course of the disease are the most satisfactory

\*The Public Health Laboratory of the Kansas State Board of Health.

laboratory aid in diagnosis. Even under ideal conditions their relative efficiency probably does not exceed seventy-five per cent and repeated cultures should be made when the organism is not found. The importance of properly collected specimens can not be overemphasized, because those that are to be mailed into the laboratory will have little chance of showing the presence of dysentery bacilli unless a proper preservative is used. The solution used in the containers furnished by the Public Health Laboratory consists of thirty per cent glycerine in physiological saline to which .5 per cent of lithium chloride has been added. This solution will inhibit the growth of the normal intestinal flora, and enable a small number of other organisms to multiply until they are present in sufficient concentration to be demonstrated.

The following laboratory results substantiate the conclusion that bacillary dysentery rivals typhoid in importance in Kansas. During the period between July 1, 1935, and December 31, 1935, a total of 1,555 stool specimens were examined in the Public Health Laboratory. The typhoid bacillus was isolated from 93 or 5.98 per cent of them, and 55 or 3.53 per cent of them showed the presence of dysentery bacilli representing a dozen or more different sub-types. The ninety-three specimens that were positive for typhoid were from thirty-nine different individuals, while the fifty-five positive dysentery stools were from forty different individuals. Two of the typhoid carriers were also carriers of dysentery bacilli.

Due to the fact that the Public Health Laboratory does not have personal contact with many of the doctors it serves and they have frequently not given us the information requested, we are unable to present clinical findings from most of these cases. Some patients did not recall any recent symptoms that might be ascribed to the dysentery bacillus. Such persons, who are dysentery carriers like our typhoid carriers, constitute a real menace to the public health.

In a recent dysentery outbreak which was investigated by this laboratory, eleven deaths resulted from a total of thirty-three cases or a case fatality of about thirty-three per cent, while the usual case fatality of typhoid fever is about ten per cent.

Although there has not been a great deal of work reported, it is possible that the laboratory

will have an important role in the treatment of bacillary dysentery, for a few workers have reported excellent results from the administration of specific bacterial therapy. <sup>(2)</sup> Drs. Silverman and Feemster report good results from the use of polyvalent dysentery serum, specific bacteriophage and autogenous vaccine, especially the latter.

### CONCLUSIONS

Bacillary dysentery is of sufficient importance to deserve more consideration than it has had in the past.

The stool culture taken early in the course of the disease is the laboratory test of choice for diagnosis, but under ideal conditions it does not have a high degree of efficiency so it should be repeated at frequent intervals.

At the present time the extent of the knowledge concerning these organisms is in a rather confused and chaotic condition, due to the multiplicity of biological types which have not been satisfactorily classified, and for which there has not been complete agreement as to identity. For that reason it is to the mutual advantage of all concerned for the physician and the laboratory to cooperate in every way possible to secure more information concerning this group of organisms.

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2. The Southern Medical Journal Vol. 24:6, 504-507, 1931.

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## MEDICAL LITERATURE

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Edited by Will C. Menninger, M.D.

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### EXTRASYSTOLES OF CLINICAL SIGNIFICANCE

The clinical significance of extrasystoles is made the subject of a study by Boas and Levy who based their findings on 183 patients exhibiting extrasystoles who were seen in office practice. The authors conclude that extrasystoles may offer valuable evidence of myocardial damage or strain and their discovery should always be followed by a careful cardiovascular examination and an attempt to determine their cause. They commonly occur temporarily as a result of tobacco, coffee, or digitalis



intoxication, and their sudden appearance accompanying an acute infection disease indicates that the heart muscle has been damaged by the toxins or virus of the disease. In patients with advanced heart disease, particularly with mitral stenosis, auricular extrasystoles are usually forerunners of auricular fibrillation. Multifocal extrasystoles are usually accompanied by serious myocardial disease. Progressive vascular lesion is usually indicated by numerous extrasystoles occurring in patients with arteriosclerosis of the coronary arteries. Short runs of extrasystoles or multifocal extrasystoles in such patients may be followed by sudden death due apparently to ventricular fibrillation. The prophylactic use of quinidine sulphate is indicated in such cases. Extrasystoles occurring at heart rates above 110 usually indicate myocardial disease, and those occurring in patients with active Graves' disease are usually accompanied by cardiac lesion. Extrasystoles occurring without the above associations are without clinical significance.

Boas, Ernst and Levy, Hyman: Extrasystoles of Clinical Significance, *The American Heart Journal* 11:264-272, March 1936.

#### RECURRENCE OF PNEUMONIA IN CHILDREN

Greene presents a study of eighty children observed at the Home for Hebrew Infants during a period of eleven years, who had more than one attack each of pneumonia. The eighty children suffered 202 of 561 attacks of pneumonia which occurred during the entire period. Fifty-two children had two attacks, eighteen had three, seven had four, two had five, and one had six. The intervals between attacks varied from a few weeks to several months, altho 32.8 per cent of the cases recurred within eight weeks and fifty-eight per cent within sixteen weeks. Findings of other observers as to the incidence of lobar and bronchopneumonia were verified as 138 cases of lobar pneumonia and sixty cases of bronchopneumonia were observed in this series. In the recurrent attack, it was found that in sixty-seven per cent of the recurrence the character of the lesion was of the same nature as in the first attack. It has been said that the same lung is likely to be affected again and again, altho not necessarily in the same lobe. Greene's figures show that in thirty-three of the cases of recurrent pneumonia, the lesion occurred on the same side, and in thirty-four on the side opposite that involved

in the first attack. There was no correlation between the site of the initial involvement and that of the reinfection. Apparently there is no close similarity in duration between the different attacks. The recurrence was of the same duration as the initial attack in twenty-six per cent of the cases. In thirty-one per cent the recurrent attack was longer, and in forty-three per cent it was shorter than the primary attack. The mode of termination in the recurrent attack was similar to that of the primary attack, regardless of type, in sixty-three per cent of the cases. The mortality rate in this series was remarkably low, being 3.5 per cent as compared with 16.7 for the group of primary pneumonia. After all corrections for possible error had been made, the rate for recurrent pneumonia was still only one-third as large as that for primary pneumonia. Altho allowance must be made for the small number of deaths within the fourth, fifth, and sixth attacks, the tendency was for the mortality rate to become less and less with each attack. It is concluded that one attack of pneumonia does not confer permanently increased resistance against a subsequent pulmonary infection, but that it does confer increased power on the part of the host to mitigate the severity of the succeeding attacks as gaged by the mortality rate. While there is no definite evidence of the nature of the resistance to the invading micro-organism, it would seem that there must be some degree of acquired immunity.

Greene, David: Recurrence of Pneumonia in Infancy and Early Childhood with Special Reference to Prognosis, *American Journal of Diseases of Children* 51:284-296, February 1936.

#### PNEUMOCOCCUS TYPE III PNEUMONIA

A continuation of previously published studies on the various types of pneumonia is made by Cecil et al. The study is based on 4310 cases of pneumonia of all types seen at the Bellevue Hospital and 765 cases of Type III seen at Bellevue and three other hospitals. The following conclusions are reached: (1) Pneumococcus Type III ranks third as an exciting factor in pneumonia, causing 11.8 per cent of all pneumococcal pneumonia; (2) Its incidence increases with age, being responsible, in the present series, for 32.8 per cent of all pneumococcal pneumonias that occurred after the age of 60; (3) It is relatively commoner in women than in men; (4) It is very prone to

occur in individuals already the victim of some chronic disease. Of 500 cases, 49.9 per cent were afflicted with some chronic malady; (5) Bacteremia was noted in 29.4 per cent of these patients who were subjected to blood cultures; (6) The death rate for the entire series was 42.2 per cent, but at the Bellevue Hospital it ranked second in severity, being surpassed only by pneumococcus Type II; (7) The death rate is affected by age and the incidence of chronic systemic disease; and (8) At the present time, there is no satisfactory serum therapy for pneumococcus Type III pneumonia. The most promising specific treatment seems to be the enzyme of Avery which destroys the specific carbohydrate in the capsule of pneumococcus Type III and which has shown curative properties in animals infected experimentally.

Cecil, Russel L., Plummer, Norman, and McCall, Marsh: *Pneumococcus Type III Pneumonia: An Analysis of 500 Cases*. American Journal of the Medical Sciences 181:305-319, March 1936.

#### DIAGNOSTIC PROCEDURE IN COMA

The importance of a rigid routine procedure for diagnosis of patients admitted to the hospital in coma is emphasized by Solomon and Aring. The following procedure is recommended: History taking for evidence of past illness; a complete physical examination including examination of the eye grounds and tests for stiff neck; roentgen ray examination in all cases of head injury or possible pneumonia or cardiac decompensation; laboratory work such as gastric lavage, catheterization, and analysis of contents, routine blood count, blood culture in presence of infection, Wassermann and nonprotein nitrogen determinations, spectroscopy, icteric index, can den Bergh, electrocardiograph, and blood CO<sub>2</sub> combining power when indicated, and lumbar puncture in all injuries (except during shock), cerebral vascular accidents, convulsion, in the presence of signs of increased intracranial pressure or meningeal irritation, and in all cases where the diagnosis is obscure. Since patients entering the hospital in coma are emergencies, rapidity and skill in diagnosis and treatment are stressed. In patients in shock, immediate shock treatment takes precedence over everything else.

Solomon, Philip and Aring, Charles D.: *Routine Diagnostic Procedure for the Patient who Enters the Hospital in Coma*. American Journal of the Medical Sciences 191:357-361, March 1936.

## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
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### MEDICAL AND DENTAL PROBLEMS\*

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Medical and dental economic problems are essentially the same. It is imperative that the members of our professions exchange information on these problems, and that we coordinate our action to the end that logical improvements will be made. We have not given too much attention to scientific advancements, but too little thought to the economic changes that concern us.

The term physician or dentist throughout this discussion refers to the members of the American Medical and American Dental Association. No individual or group of individuals has a better right to speak for the legally qualified doctors of medicine and dentistry than these respective organizations. Any quack can use the term "doctor," but the doctor of medicine and the doctor of dentistry alone are honored with the titles of M.D. and D.D.S., respectively. Members of the medical and dental professions should distinguish themselves at all times by using these specific titles, rather than the common term "doctor."

We hold in our ranks the key to successful health measures, and radical changes cannot be made by social or political propagandists unless the desires of our members are divided. We should not idly stand by and allow the public to be infected by the Milbank, Rosenwald or Twentieth Century ideas of grandeur. We should exercise our powers of decision; thinking not of ourselves, but for ourselves.

The time has arrived when we should assert our rights and decide to continue dispensing our services by methods of our own choice. We should discontinue the use of statements given out by those interested in disrupting the traditions of our professions. Greater joy could not be created in the camps of these self-appointed directors of health than that which results from the use by our members of their

\*Read before the 65th annual session of the Kansas State Dental Association, April 28, 1936, at Salina, Kansas.



statistics, their arguments, and their assertions. It is ridiculous to say that state medicine is necessary, and cowardly to say that it is sure to come. Those who will gain by such a change, or those who are uninformed about the system make these assertions.

Full credit is due those social service workers who endeavor to establish higher wages and better living standards, for they know that these things must be overcome if their work is to be successful. We do not accuse social service workers or any of the welfare agencies of trying to bring about changes in administration of health measures for direct gain to their organizations, but we can, and do question the motive of some of their supporters. These altruistic organizations are being used as an entering wedge for the establishment of measures that are unquestionably social—not medical.

Some years ago the philanthropist was thought of as an individual who deserved a halo about his head. Some of them do, but we suspicion others as being influential in proposing radical, social, and economic changes. The lure of free medical care is used to console the underpaid employees of industry or the politician's dissatisfied constituents. Health foundations seek to make a business of the practice of medicine and dentistry. Medicine and dentistry as a business would have to be concerned with assets and liabilities. Medical and dental services would vary in proportion to the profits from the business. The practice of medicine and dentistry is an art, not a business, and monetary values can never be regulated according to the true worth of art.

Economic problems are not confined to the medical and dental professions. The entire business world has been and still is, floundering in the sea of economic distress. The business engineer has failed as yet to demonstrate his ability to solve the problems in his own field of experience; therefore we may be dubious, and rightfully so, of his ability to handle medical and dental problems. We were without many of our present economic problems until the crash of business produced such a volume of unemployment and lowered incomes.

A survey of recovery methods indicate that symptomatic remedies have been used almost entirely, and that little effort for social justice has been aimed at the primary focus or cause of the condition. Social justice, to be social or just, should demand a wage that would provide

for proper food, clothing, and living conditions. Such a humanitarian attempt to eradicate these conditions could be heralded as the true foundation of disease prevention.

Our fore-fathers conceived the quaint notion that the people should support the government, and every child was inspired to independency by the words of Benjamin Franklin, "Early to bed and early to rise, makes a man healthy, wealthy, and wise." Today, some have the notion that the government should support the people, and the present doctrine seems to be, "Late to bed and get up when you please, Uncle Sam cares for your health, and everyday needs."

This presentation is not for the purpose of picturing another group plan of medical and dental care; rather to stimulate and further the coordination of our efforts to the end that better results will be obtained with our present facilities. The injection at intervals of stories that remind you of similar experiences may serve to emphasize the importance of attention to things that are too frequently ignored. Any person resents being treated as "A" patient. He wants to be treated as "The" patient. Failure to court this fact helps to produce a group of unsympathetic individuals that form a fertile field for exploitation by quacks, cultists, propagandists, and unscrupulous politicians.

A physician or dentist should hesitate to accept at face value any patient's statement about another physician, dentist, or nurse. Such statements are usually distorted to suit the patient. Some patients are shoppers and the quoting of a fixed fee to such persons encourages them to find professional price-cutters.

The practice of prescribing and recommending highly advertised medicines, or the dispensing of medical samples, encourages many individuals to experiment with self-diagnosis and personal therapy. The manufacturer keeps the public well informed about the symptoms and indications for his preparations; therefore, they do not hesitate to procure or recommend them to friends when they are assured that their physician and dentist prescribe these advertised preparations. Many physicians prescribe according to the instructions of the last detail man. Such a practice on the part of physician or dentist is disgraceful; it emits the aroma of indolence, and marks a decline in the art of prescription writing. It encourages the advertiser to say to the public, "Your physician and dentist recommends this preparation."

The physician or dentist frequently fails to evaluate the patient's conclusions concerning health measures. We hear that the "mystery" of medicine has disappeared. A part of it has disappeared perhaps, but only in direct proportion to the increased intelligence of the profession and laity. The increase in scientific knowledge has reduced the frequency with which mystery is applied. The necessity however, for mysticism has not completely disappeared, neither has the public's appreciation of it. We may choose to call it "applied psychology," however all have gained if the addition of a little mystery produces satisfaction to the physician, dentist, and patient. It can be more easily applied and more readily understood, in many instances, than thorough scientific explanations, and if unassociated with gross deception it may be used with becoming dignity. It is an art to gratify without harm.

Just recently a patient suffering with an infected finger, the result of a fish hook puncture, was attended by a physician. The condition was not serious at the time, and course of hot epsom salts packs were recommended. The patient was instructed to return if prompt improvement was not obtained. Later he returned and stated that he did not feel obligated to pay the bill, since nothing was done for him, no medicine given, not even a bandage applied.

The physician knew of course the potential danger of the infection, and the charge for the advice was little indeed compared to the potential costs. The application of a colored solution and a bandage might have received undeserving credit for the recovery; nevertheless it could have been applied in less time than that necessary for a complete explanation of cellulitis.

Imagine the reaction of a patient who appears with the classical history of a sprained back to the physician who makes no manual examination. Logical recommendations may be given for home treatment, such as hot packs, massage, liniment, and aspirin; however, the intelligent or unintelligent patient, if he has to do all the work, will likely resent paying for such advice.

A patient with the same type of a case may be satisfied at another office, if the laying on of hands is associated with the diagnosis. The satisfaction is increased if heat therapy and massage relieve the pain of muscle spasm. Suggestions for home treatment will be more

cheerfully executed, and there will likely be no resentment about the bill.

The doctor of medicine indorses all the virtues associated with the latter form of treatment, and he stands to profit thereby if he is ambitious enough to apply them.

Dentists frequently abolish the seat of a virulent infection by removing impacted food particles from overlying gum flaps, and fail to impress the patient with the value of treating an inflamed area. Is it any wonder then that the patient is so frequently unimpressed with the real value of the service?

Such histories as these represent a class of cases in which a minimum amount of treatment produces a maximum amount of benefits. Disease prevention care, if you please. There seems to be a perverted idea of the worthy award for preventive medical services. There are none who object to the results obtained; however, little thought is ever given to the vast savings in money resulting from preventive measures. Physicians and dentists with products of their own research have eradicated many of the diseases that formerly added immensely to their income. The calculated savings that have resulted from the use of the various immunizing agents have however, not been accumulated to provide food, clothing, and shelter. Starvation and want persists, and the demand continues to grow for free administration of those things that add so much to the health of the public. Some have suggested that the physician be paid for keeping the people well. It would likely be agreeable if compensation could be made on a basis of the prevention values.

The members of our professions are trained individualists in methods of administering health service. The public cherishes individual attention. Each physician and dentist has a basic training that qualifies him to make his own reconnaissance, develop his own line of procedure, and render his own decision. The aggressive professional man never hesitates to seek advice on scientific questions, although he may accept business advice reluctantly. It is the patient and physician relationship that stimulates research and encourages the practitioner to prove his ability. It is a bond that no one can well afford to destroy.

Since the inception of the American Medical and the American Dental Associations, medical and dental standards have rapidly and definitely reached an enviable position. There are



156,339 practicing physicians, and approximately 63,000 dentists in the United States. Much of the criticism that has been cast against these professions has come from quacks, cultists, and those insubordinate members of our own professions who choose to cloak themselves with its dignity and advantages, while they bargain with the propagandists to sell their birthright. The criticism of such adversaries more convincingly establishes the strength of our organizations.

Organized medicine and dentistry has been accused of trying to block progressive health measures. Nothing could be farther from the truth. They have always been, and still are, vitally interested in health progress; these professions will not approve any change until they have carefully considered any untoward affect it might have upon their patients. They know that the most unreliable statistics supporting such a change are those based upon inadequate research. Certainly now, if never before, the old surgical maxim, "When in Doubt, Wait," should be applied to many of the far-reaching and radical changes that are being proposed.

The Committee that accumulated the statistics on the Cost of Medical Care apparently knew what they wanted, as might be judged from the figures they produced. It is of more than passing interest to note that seven of the eleven members picked as the Medical Advisory Committee to the Committee on Economic Security, operating under the Secretary of Labor, had previously expressed themselves as favoring state medicine. The majority of these Committeemen held salaried positions and were not fair representatives of those actively dealing with the economic problems of medicine and dentistry. The conclusions of these Committees can not be accepted without question. Such a mass of inaccurate statistics is conducive to alluring arguments but illogical conclusions. Widely different, or opposite interpretations, can be placed upon some of their statistics with equal honesty.

The revised editions of the American Medical Association directory, listing the legally qualified physicians in the United States, have been available to the public since 1909. An analysis of this directory does not agree entirely with the statistics rendered by the Committee on the Cost of Medical Care. In contrast to their reports we find that for every 785 persons in the United States there is one doctor of medicine;

83.5 per cent are listed as general practitioners, and only 16.5 per cent as specialists. Likewise, the American Dental Association supplies one dentist for approximately every 1900 persons. The State of Idaho has 1233 persons for each physician, while many of the metropolitan areas have one physician for as few as 444 persons; nevertheless, mortality statistics for Idaho, where healthier living conditions prevail, are far better than those of the metropolitan areas.

There is another factor that deserves consideration. This Committee fails to point out the fact that the metropolitan area supplies a considerable portion of the medical and dental service to its surrounding trade territory. The same Committee has recommended for the United States a medical system such as that of Germany, where they have an average of 1300 persons to each physician, and 45.5 per cent of the physicians are listed as specialists. It is impossible to associate logic with such reasoning.

It has been stated that only two per cent of the population are ill at any one time; minor injuries accounting for approximately one-half of this number. The Committee on the Cost of Medical Care in their own statistics found that 91.2 per cent of the people are receiving medical care. If we subtract from the remaining eight per cent approximately 5,000,000 Christian Scientists and the thousands of individuals belonging to other groups who refuse any form of health care offered by the doctor of medicine or dentistry, it leaves considerably less than 785 persons for each physician in the United States. Each general practitioner, to obtain his average income, needs approximately 1400 persons. If this be true, little can be said in favor of the Committee's request for more physicians and dentists.

In view of the fact that we have heard no complaints from the members of our professions about being overworked, it is reasonable to assume that the Committee has overlooked a reserve supply of service. Perhaps it is just another form of the popularized idea, "Starvation in the midst of plenty." We see the farmer selling his products and totalling his losses, then he balances his budget with money from somewhere for agreeing not to produce enough to balance his budget. It seems that some folks are happier trying to find something to be unhappy about.

The public is being lured by the proposition that we should have more physicians and

dentists; they to be regimented according to the population, who will be privileged to use more and more of their services at less and less expense. We are told that fifty per cent to eighty per cent of the money spent in European countries for health service goes for administration expense. The fantastic picture of health care in the United States has not included the appropriations that would be necessary for equipment, investigating, recording, and buck-passing personnel. Perhaps we will learn later how the per capita cost can be reduced if the overhead expense is increased.

The Committee on the Cost of Medical Care calculates that state medicine would succeed on an annual per capita tax of approximately thirty-five dollars. If we should depart from our present system of adjusted payments, and enter upon the scheme of contract payments, the physician and dentist would profit most by rendering a minimum amount of service. Ten cents will never buy more than a dime's worth of merchandise; neither will ten-cent-a-day health insurance provide for more than that amount of service. In addition to all those who now refuse medical aid there are thousands of individuals whose yearly medical expense is less than the proposed per capita tax. Certainly such persons will not favor a system that would require them to pay a per anum tax of \$36.50 for each member of their family.

The records show that over forty-seven per cent of the population has no illness in a normal year, and ninety per cent of those who fall sick have minor ailments; hence, everyone would be required to pay the tax to safeguard ten per cent of the population. Eighty per cent of the population, who have an average income of less than \$2000.00, would be required to contribute to the care of those who have five to ten times that income. According to the 1936 World Almanac it is calculated that by a sales tax it would cost New York nine cents, Illinois fifteen cents, Alabama thirty-three cents, Georgia forty cents, and Kansas between forty and fifty cents on the dollar to support state medicine. The highest sales tax now in use is three cents. It would seem unwise to place the tax burden on property, in light of the fact that present government income falls short of the budget expense. It is likely that the tax collector would prove less lenient than the family physician or dentist.

The Committee has unduly emphasized their contention relative to an improper dis-

tribution of physicians and dentists. "Inadequate income," has been given as the reason why physicians and dentists avoid certain areas. Few towns of less than 200-300 population are without a physician or dentist, however no one has pointed out the fact that physicians and dentists who would locate at such points are often considered by the laity as lacking in sufficient skill to be successful in larger centers. Good roads and the automobile have minimized distance, and the education of the laity to the advantages offered in centers that support medical and dental services have helped to decide the location for many a physician and dentist. The departure of the physician and dentist from these small communities has been paralleled by that of the merchant, banker, and laborer; yet, health conditions in such communities have maintained a level, which is in sharp contrast to that of business. Dr. Harry S. Mustard, in his book entitled "An Introduction to Public Health," admits that there seems to be a rather fair distribution of doctors and dentists, but an unequal distribution of laboratory and hospital facilities. This is a commendable statement from one who apparently bases so many of his recommendations on the statistics given by the Committee on the Cost of Medical Care.

The practice of medicine and dentistry is an art for man as an individual, not as a corporate part of some organization. It recognizes three things that are essential to a good diagnosis; time, careful attention, and sympathy. These essentials are woefully lacking in any form of state medicine, for its results depend upon mass-diagnosis and mass-treatment.

Members of our professions who hold positions in free clinics or organizations that simulate state medicine will tell you that there is little difference between these clinics in our country and the English Panel System, where the shillings doctor, who gets from nine to thirty-six shillings per patient, meets his clinic with the command, "All those who want cough medicine, step forward." Those suffering other ailments are called for in turn, and the individuals of each group are handed their bottles of medicine. Satisfactory results are dependent upon the patient's ability to diagnose and fit himself to a bottle of the stock supply. The American public would soon look with scorn upon such a "Squint and Bottle System."

Socialized medicine, state medicine, or the panel system of medicine, are one and the same,



in that they promise each individual all necessary medical, dental, and hospital care for the paltry sum of, let us say—ten cents per day. School children above the fifth grade will tell you that such a sum is not sufficient to pay for the Ex-Lax, Anacin, and Rem that is used in their homes. Socialized medicine is social, only to the extent of pooling the funds. The descriptive adjective "socialized" is ambiguous and misleading, because medicine and dentistry as an art cannot be pooled. All prepayment plans for medical, dental, or hospital service carries a gambler's chance clause, and requires payment, not for prevention, but for something that may not be rendered.

Under the Panel System of medicine the professions would be obliged to render health care to families allotted them for salaries established by those perhaps totally devoid of a knowledge of service values. These families would be obligated to pay a private fee, in addition to this tax, if they obtained service from the doctor of their choice. Adequate medical and dental care is promised by the proponents of socialized medicine. The public need only observe our present county indigent medical and dental service, which is an example of this system, to determine what is accepted as adequate service by incompetent political or lay interpreters.

Compensation for loss of time by sickness is a feature of the European system of medicine. The Committee on the Cost of Medical Care thinks this would be an objectionable feature in a plan for the United States. To this extent we are entirely in accord with them. European patients, as a class, are not unlike Americans. If this part of the scheme is omitted there is reason to believe the plan might prove unsatisfactory. Industrial employees as a class go reluctantly to the company physician. Many refuse to accept such service, and demand the right to choose their own doctor. The fact that the industrial physician and surgeon is well qualified, does not alter the employee's opinion, and members of the employee's family seldom, if ever, go to him as a private patient. Therefore, without the compensation feature, the plan is devoid of its chief incentive.

Patients seek the ethical physician and dentist largely because of his reputation. They accept the compensation physician because treatment is urged upon them through this channel with seemingly no extra expense. The point to which their wage is reduced to provide this medical service is never emphasized. Absolu-

tely free service is frequently viewed with suspicion, as might be judged from this Michigan report. Three hundred free pairs of glasses were prescribed for children. Just seventy-five pairs were delivered. The excuses given, pointed out very clearly that the parents doubted the accurateness of the examinations or the value of the glasses.

In the United States many plans of health service are in operation that are radically different from those used in years past. Virtues may evolve from some of them, already some have proven unworkable. In some sections the so-called Washington Plan has received favorable comment. This plan, as many of its type, has the running gears all set for lay control. It is bureaucratic in design, and provides lay intervention for that which the doctor himself could do. Once the professions indorse a plan of this type, and in so doing admits to the public that a business agent is essential, there is nothing to prevent the lay operators from hiring and controlling the professional personnel.

There is little reason to believe that the busy physician or dentist could be induced to enter a Panel System of service. The practitioner, with a low income and a small practice, would likely be obliged to accept a position. The average income of the European Panel physician and dentist is quite low. In fact, it has decreased to the point that the average American physician or dentist could not improve his present status or even exist upon it.

There are those of the profession who feel that they are too busy to go into the financial, as well as the physical problems of their patient. They might well afford to take the time, rather than to steer any patient through such bureau machinery. If a bureau agent, a total stranger to the patient, can take a social history, gather a few figures, and devise a plan of payment, then, I believe the physician and dentist can, and should, develop the technique.

To convince myself that no business agent was necessary in my practice I selected approximately \$600.00 worth of accounts, ranging from \$2.00 to \$100.00. They were from six months to two years old. Statements had been sent to all; to some, special letters had been written. No responses were received. I then offered in a letter three proposals of settlement; (1) twenty-five per cent discount if paid by a given date; (2) payments at my office, as they might designate, in full of the amount; (3) payments, as they might designate, to a col-

lector in full of the amount. Approximately seventy-five per cent of the cases replied promptly. They all chose plans one or two. It was interesting to note that none indicated a desire to pay to a collector, even a small amount, although it would save them a trip to the office.

I believe that settlement plans could be proposed by the physician and dentist early in the course of treatment. The professions might find it advisable to use a debit collector for those who would choose to pay small amounts at their homes. The less complicated the provisions the more likely satisfactory results will be obtained in rendering health service. We have an adequate supply of service for which there is a demand. We should supply it, by plans of our own, which we can adjust to the individual's ability to pay when he needs the service.

Those who would profit most by state medicine are the ones that encourage weekly or monthly payments at high interest rates for their products. The credit system is often so denuded by its virtues that it looks like the silhouette of a racket scheme; however the American public is educated to the merits of small payments, and we should utilize this form of post-payment settlement for medical or dental services.

Lack of money has been given as the principle reason for inadequate health measures. I do not believe this to be true. The individual who offers such an alibi will usually find funds for many unnecessary things. The large number of patients flocking to the dentist after the publicizing of Dr. Hartman's solution, might suggest that fear of pain has been a potent factor in their health neglect. All the expensive propaganda for "Periodic Health Examinations," and "See your Dentist Twice a Year," did not overcome fear.

The actual average expense of each patient to the physician or dentist is much higher than many realize. Physicians limiting their practice to various specialties have found this expense to vary from \$1.03 to a little less than \$2.00 per patient. The dentist must collect in addition to this the cost of his materials. Figures are not available from the general practitioner at this time, and his expense must be calculated in proportion to those of the specialist. One can readily assume however, that profits do not accumulate rapidly from the average office or home fees that are collected.

Most of the states have laws stating that adequate medical care shall be given the indigent. Sufficient funds have as yet never been provided to produce satisfactory results, and the family physician and dentist is constantly rendering service to many of these individuals who cannot be satisfactorily served by the tax-supported physician. If the average cost per case for health care was given the physician and dentist, plus the same percent of profit given the merchant, better service would be rendered this class, and the surplus time of the profession would not be absorbed in an unfair manner. The professions have always contributed their full share to charity, however it is basely unfair to expect them to absorb the markedly increased indigent load on this basis. Every other service rendered to the indigent class has yielded a profit to various merchants, even the prescription written by the unpaid physician or dentist draws a profit.

Our professions receive repeatedly appeals for free service from cooperating health agencies. In fact, we hear so much about cooperation in matters concerning health that we wonder if the actual needs are not overemphasized. We have some right to such conclusions when, while administering free medical care to a county indigent patient we are requested by him to speak a good word for him to the car dealer so that he may purchase an automobile on credit; or when we see two small girls of such a family appear at school with new permanent waves.

Cooperation without proper coordination is ridiculous. The newly-wed who requested his young wife to shorten his trousers three inches found that out. His wife told him to have his mother shorten them. His mother and sister told him it was his wife's place to do such work. Then, each in turn regretting their decision, shortened his trousers. You can imagine the effect; however he received exactly what he had requested from each of them. Thus it may be that coordination has been lacking in our work.

Our Public Relations Committees should seek avenues to lay audiences. The radio and the press should be utilized in distributing authentic material to the public. The propagandist, in his efforts to obtain control of health measures, has taken advantage of the ignorance and self-satisfied attitude of the physician and dentist concerning proposed changes. We will have no one to blame but ourselves if the control is shifted from trained



hands to those who have only visions of ability. There has been just enough truth mixed with the propaganda produced by the Medical Economic Security Council and other agencies who are trying to establish state medicine and group forms of health service, to create a public desire for an answer to this question.

There are opposing sides to this medical economic issue, and it is imperative that each physician and dentist be thoroughly informed in order that he may present the unbiased facts to his patients for their intelligent consideration. Our adversaries have unwittingly helped to more firmly intrench the merits of organized medicine and dentistry. The alluring promises presented by these organizations have created a public that suspicions the virtues of such radical changes. Certainly we must not lose this advantage and prove unfaithful to this public trust.

The attitude of the American Medical and American Dental Association is reflected by its individual members. Any tendency on our part to treat this problem with indifference reacts against us as individuals and as organizations. We can further improve our relationship with the public by encouraging more frequent consultations and exchange of ideas; assuring the laity that inter- and intra-organizations relations are sponsored in their behalf; and that the intervention of a set plan, an individual or any group of individuals; whether it be voluntary or by legislation, will destroy the "patient-physician bond," which is the "heart and soul" of the art of medicine and dentistry.

—JKMS—

### A CONGENITAL HEART DEFORMITY

(Continued from page 193)

ent expired before any other laboratory work could be done.

Discussion of clinical diagnosis. This case was diagnosed a congenital heart on the following basis:

1. History of marked cyanosis since birth.
2. A Roger's Murmur and a systolic thrill at the left base.
3. And a pulmonary hypertrophic osteoarthropathy.

This is most probably "A Tetralogy of Fallot" because of the physical finding. "Tetralogy of Fallot" was first described by Peacock in 1858 but was analyzed more completely, as a clinical entity by Fallot in 1888. "Tetralogy

of Fallot" as translated from his original article consists of:

1. A pulmonary stenosis; 2. A dextroposition of the aorta; 3. An intraventricular septal defect; and 4. A hypertrophy of the right ventricle.

From the clinical point of view, according to White, when murmurs occur they are as a rule systolic in time and loudest just left of the sternum where they may be very limited in extent, being located in the first intercostal space in many cases of patent ductus arteriosus; in the second space with pulmonary stenosis; and in the third interspaces in cases of interventricular septal defects. This patient had a systolic murmur which occurred from the second to the fourth intercostal spaces on the left which would verify the fact that the patient had a pulmonary stenosis and an interventricular septal defect according to White. A continuous roaring or rumbling murmur which extended through systole and diastole and found in the first to third intercostal spaces left of the sternum is pathognomonic of patency of ductus arteriosus. However, this patient did not have a diastolic murmur. This patient had a P. M. I. which was right of the sternum in the sixth interspace. A diagnosis can be made of "Tetralogy of Fallot" on the clinical findings which was later verified at the autopsy.

Cause of abnormal development of the heart in fetal life is not known except in a few cases in which endocarditis is responsible.

Heredity is a factor. For example, at least seventy-nine of one series of 850 cases of Abbott's showed this influence; while 214 of these 850 cases had congenital anomalies of both heart and blood vessels, 132 showed congenital anomalies elsewhere in the body. Alcoholism is thought to be a factor. Congenital defects of the heart comprise about two per cent of organic heart disease.

Maud Abbott made autopsies on 850 cases of congenital heart diseases and made the following survey: There were 312 auricular septal defects; 269 ventricular septal defects; 222 instances of patent ductus arteriosus; 130 instances pulmonary stenosis; 124 anomalies of semilunar valves; 88 coarctation of aorta; 88 transpositions of arterial trunks; 72 anomalies of the great veins.

In these 850 cases she found only seventy-four cases of "Tetralogy of Fallot" of which the oldest attained the age of fifty-nine years, whereas the average case was only twelve years

of age. The case that we have here attained the age of twenty-one years. According to Maud Abbott, twenty per cent of these cases die of cerebral involvement, sixty per cent of bronchopneumonia and twenty per cent of other complications.

A complete autopsy was not done because permission was not granted. It was thought that this patient had a cerebral embolus.

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## NEWS NOTES

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### HOUSE OF DELEGATES

The annual meeting of the House of Delegates of The Kansas Medical Society will be held commencing at 2:00 p. m. on May 11 at the Chamber of Commerce building in Kansas City, Kansas.

All delegates are urged to attend inasmuch as several matters of unusual importance will be presented.

### THE SOCIAL SECURITY ACT

The plans prepared by the Kansas State Board of Health and the Kansas Crippled Children's Commission for maternal and child welfare, public health and crippled children activity in this state under the Social Security Act, have recently been approved by Washington officials. A portion of the federal funds provided for this purpose has already been received by the above agencies and other amounts are anticipated within the near future.

The Social Security Act sub-committee of the Medical Economics Committee has been engaged in a study of this measure for the past six months. It is now preparing a complete summary of the provisions in Kansas which it hopes to have available for publication in the June issue of the Journal.

### SEDGWICK CLINICAL MEETING

One hundred and seventy-one physicians registered for the annual Spring Clinical Assembly of the Sedgwick County Medical Society held at the Allis Hotel in Wichita on April 14.

Officers of the society declared that the size of the attendance was greater than anticipated because of the fact that this was the first time the meeting had been staged. Almost fifty physicians from neighboring counties in southern Kansas and northern Oklahoma attended the sessions.

The success of the first meeting insures its repetition in future years, according to Sedgwick County members. The Spring Clinical Assembly was presented for post-graduate study for the benefit of Wichita physicians and medical friends in surrounding territory. A full day of clinics was prepared by members of the Sedgwick County Medical Society and the rotating staff of the county hospital.

Distinguished guests included on the program were Drs. J. W. Duncan and M. C. Howard, both from Creighton University Medical School, Omaha. Motion pictures were shown continuously throughout the day and a large library of films was available to be shown upon request. Scientific exhibits prepared by members of the rotating staff of the county hospital were on display in another room. Roundtable luncheons were held at noon. A discussion on "The Acute Abdomen" was led by Dr. J. W. Duncan with Dr. Howard E. Snyder, Winfield, as guest host. Dr. G. E. Paine, Hutchinson, was guest host for the discussion led by Dr. M. C. Howard on "Secondary Anaemia."

Clinical sessions began at 10:30 in the morning and lasted throughout the day. Dinner was served to one hundred members at 6:30, after which the closing lecture of the day was presented by Dr. M. C. Howard.

Scores of letters from visiting physicians were received by the executive secretary of the Sedgwick County Medical Society congratulating the society upon the program and urging that it be repeated next year.

The committee in charge of the assembly was composed of Drs. R. A. West, G. F. Corrigan, G. B. Morrison, H. R. Hodson, Chas. Rombold, N. L. Rainey and G. E. Milbank.

### FIRST AID CAMPAIGN

The American Medical Association and the American College of Surgeons have recently approved a national project to be sponsored by the American Red Cross wherein first aid equipment and first aid assistance will be made available in wayside police stations, gasoline stations, stores, tourist homes, fire departments, etc., for provision of emergency aid to sufferers in automobile accidents. The equipment to be utilized will be purchased and installed by local Red Cross chapters, and will include one twenty-four unit Red Cross First Aid kit, one half-ring splint for leg fractures, two highway station signs, wooden splints, blankets and a stretcher. It is also planned that the attendants at locations where equipment is installed will receive training in first aid.

The following comments by the Red Cross offer additional description of the project:

"It must be definitely understood with all concerned that Red Cross First Aid is meant in no sense to take the place of medical care. It is a volunteer service rendered as neighbor to neighbor in an emergency. In every instance the person suffering an injury should be advised to obtain medical attention. No recompense may be received by anyone giving First Aid, nor may donations be received in this connection at the station or elsewhere, and this applies to those who are able to pay as well as to those who cannot. Furthermore, second treatment of an injury must not be given. All subsequent requests for assistance should be referred to a medical doctor.

"The training of personnel should be on a volunteer basis as with any other Red Cross First Aid classes, and



those taking the work will generally want to buy their own textbooks. The ready reference telephone directory can easily be made by typing the names and telephone numbers of available doctors, hospitals and ambulance services and mounting the sheet on heavy cardboard for hanging near the telephone or First Aid cabinet. This directory should be prepared in conjunction with the local medical society and should be kept up-to-date."

Representatives of the Red Cross recently interviewed officers of the Society to secure its endorsement and suggestions for institution of this project in Kansas. However, as the Council has not as yet had an opportunity to consider the proposal and as the Red Cross desired to commence activity immediately, an agreement was made that a description would be bulletinized to the county medical societies for handling as they might desire. This bulletin contained authorizations by the Red Cross wherein a medical advisory committee might be appointed in each county for local supervision of the program; the training courses might be given medical supervision; and the roster of each county medical society might be posted as indicated above.

#### KANSAS MEDICAL HISTORY

The following bulletin forwarded to the presidents and secretaries of the county medical societies on April 17, describes an important project which the Medical History Committee was successful in having approved by the Kansas WPA and the National Director of the Federal Writers' Project at Washington:

"This Committee has desired for some time to compile a history of the civic and scientific contributions of the Kansas medical profession, but has lacked facilities to accomplish the necessary research. Upon receipt of information that the Kansas WPA has under its direction a considerable number of writers' projects wherein the services of WPA employees are utilized to assemble statistical and historical information of permanent interest, representatives of the Committee held conferences with officials of the Federal Writers' Project to determine whether it would be possible for a portion of this activity to be devoted to preparation of a Kansas medical history. After considerable discussion and reference of the proposal to the National Director of the Federal Writers' Project at Washington, approval has been obtained.

Therefore, effective immediately, The Federal Writers' Project in Kansas will commence research in various archives of medical information in the state, and will call upon the secretaries of the county medical societies for their suggestions as to the names of physicians or other persons who are able to provide recorded or verbal information on this subject.

In order that the Society may take the fullest advantage of this opportunity, we would greatly appreciate your assistance in having these interviewers provided with all information of value that may be available in your county medical society files, in having them referred to all sources of medical history information in your county, and in arranging

for them to receive all other cooperation that is possible.

Very truly yours,

THE COMMITTEE ON MEDICAL HISTORY,  
W. S. Lindsay, M.D., Chairman,  
E. D. Ebright, M.D.  
H. C. Sartorius, M.D."

Since a complete history of this kind has never been compiled in Kansas and as this is probably the last decade in which much early day medical information can be obtained, the above project represents an opportunity of unusual value to the Society.

#### BRINKLEY OPINION

The United States Circuit Court of Appeals handed down its opinion in the case of John R. Brinkley vs. Kansas Board of Medical Examination and Registration on April 7, 1936. Decision was in favor of the Board. The opinion, although lengthy, is so very interesting that it is reproduced below for the information of all members:

#### UNITED STATES CIRCUIT COURT OF APPEALS

##### TENTH CIRCUIT

No. 1344—January Term, 1936.

John R. Brinkley, Appellant,

v.

J. F. Hassig, C. H. Ewing, O. S. Rich, Wm. G. Burnaman, H. E. Haskins, John D. Page, and E. C. Morgan, as members of the State Board of Medical Registration and Examination of the State of Kansas, and Clarence V. Beck, Attorney General of the State of Kansas, Appellees.

Appeal from the District Court of the United States for the District of Kansas.

(April 7, 1936.)

James H. Harkless and James E. Smith (John S. Dean, E. H. Hatcher, Frank H. McFarland, and Schuyler W. Jackson were with them on the brief) for appellant.

William C. Ralston, Sp. Asst. Atty. Gen., and Ralph T. O'Neil (Clarence V. Beck, Atty. Gen., John G. Egan, Asst. Atty. Gen., John D. M. Hamilton, and Barton E. Griffith were with them on the brief) for appellees.

Before LEWIS, PHILLIPS, and MCDERMOTT, Circuit Judges.

MCDERMOTT, Circuit Judge, delivered the opinion of the court.

On September 17, 1930, the Kansas State Medical Board revoked the license of Doctor John R. Brinkley to practice medicine and surgery in the state of Kansas. On December 30, 1931, this action was brought to set aside and enjoin such order on the ground that it invaded rights guaranteed by the federal constitution. The trial court, after a long trial, dismissed the bill on its merits on July 15, 1935. This is an appeal from that order.

The Kansas statute, 1933 Supp. to R. S. 1923, § 74-1001, establishes a board of medical registration and

examination consisting of seven physicians in good standing. Id., § 65-1001, provides in part:

"The board may refuse to grant a certificate to any person guilty of felony or gross immorality or addicted to the liquor or drug habit to such a degree as to render him unfit to practice medicine or surgery, and may, after notice and hearing, revoke the certificate for like cause, or for malpractice or unprofessional conduct."

On April 28, 1930, a complaint based on eleven specific charges of fraud, immorality and unprofessional conduct, was filed before the board praying for the revocation of appellant's license. If any one of them is sufficient in law and supported by substantial evidence, it will sustain the order. One charge is that appellant performs a "Compound Operation" on patients for the purpose of curing impotency, high blood pressure, epilepsy, dementia praecox, and diseases of the prostate gland and kidneys; that he accomplishes these cures by transplanting animal or human glands into the patient; that the charge for goat glands is \$750 and for human glands \$5,000; that such operation is of no value to the patient.

Another charge is that he gives talks over the radio,

"for the purpose of enticing patients to his hospital and to induce persons to purchase medicines; that he diagnoses and prescribes for patients over the radio; that he gives prescriptions by numbers which have to be filled by and purchased at certain drug stores, from which he obtains a commission; . . . that such diagnosing and prescribing by radio are necessarily inaccurate and dangerous, carrying too great a hazard of error in misinterpretation of symptoms, inaccuracy of patients' statements of the location and character of complaints, the risk of misunderstanding the respondent's directions and confusion of numbers given of prescriptions, and lacking entirely in the information to be gained by the usual ordinary routine physical and laboratory examination of the patients, without doing which respondent is grossly negligent."

Appellant was given notice of the charges and of the hearing thereon. After motions to strike from the complaint and to make it more definite and certain were denied, an answer was filed; the issues so joined came on for hearing July 15, 1930. The hearing, with some adjournments, lasted until September 16 and included a session at which appellant performed the compound operation in the presence of the board. The evidence of hundreds of witnesses was received, much of it highly technical. Throughout appellant was represented by counsel who had acquired a comprehensive knowledge of the anatomy involved.

If we translate the medical terms used with reasonable accuracy, the first two phases of the compound operation are routine minor surgery; the first is injecting mercurochrome into the seminal vesicles, and the second is an ordinary vasectomy. The first is useful where there is infection and the second where sterility is desired. But, excepting appellant, the doctors testified that such phases could have no effect on the diseases for which appellant advertised the operation as a palliative.

The third phase was advertised by appellant in part as follows:

"Likewise we borrow the services of a branch artery, and this is delicately anastomosed down alongside the vas into the epididymis."

Many surgeons testified that this phase was a physical impossibility. However, it does appear that appellant did pick up a loose areolar or fascial tissue from the scrotum and implanted it in the testicle. So this argument turns on the meaning of the word "anastomosis" and is not important. The surgeons generally testified that the implantation made was useless.

The fourth phase is the transplantation of the testicle of a goat into the scrotum of a man. Many eminent surgeons testified that such transplantation could not be of the slightest benefit to the patient. Others, including the Doctors Mayo and Judd, testified that results so far attained in experimental gland transplantation have not met with sufficient success to justify adoption in clinical surgery. Appellant maintained its efficacy and brought onto the record the experiments of others along this line; more than four hundred patients testified they had been materially benefited by the operation and were more than satisfied.

There was also evidence that the operation was distinctly a minor one, performed under a local anaesthetic, and if it had been of value, should not cost more than \$100. There was also evidence that, as performed, it was not aseptic.

The legislature enacted that membership of this board should be confined to physicians and surgeons because they alone have the education and experience to determine such questions as are here presented. Does this record disclose no more than a conflict of opinions among reputable surgeons as to the technique of operative procedure, or as to when it is indicated? Or does it disclose that appellant was using his license to perpetrate a cruel hoax upon the public by exacting extravagant fees for a trivial and worthless operation? Did appellant endanger the health of his patients by seducing them into the belief that serious diseases could be cured by a surgical hocus-pocus? Whether it is the one or the other is a question peculiarly for the decision of men skilled in anatomy. There is a great volume of evidence in this record to support the latter conclusion; and if such is the fact, the board would have been derelict if appellant's license had not been revoked. It is true, as counsel argue, that the great advances in medical science have come about by the courage of pioneers, whose efforts often met with ridicule from their professional brethren. It is true that doctors even yet disagree. It is also true that charlatans masquerading as doctors defraud the public to their own enrichment by promising to cure cancer with innocuous ointments, and thus endanger their lives by depriving them of sound medical advice. Between these two extremes there is a twilight zone, where doubts might perplex. But unless we can say, from the record, that there is no doubt that this is a mere disagreement among doctors, the finding of the board is not open to our review. The legislature has properly committed the vital question of the fitness of those who administer to the sick to a skilled board of medical men, and not to courts unlearned in the art. The proof here amply supports the conclusion that the compound operation is not an honest effort to relieve the suffering, but a scheme for appellant's unjust enrichment.

The proof as to the diagnosis of disease and prescriptions for its cure over the radio is too long to relate and is undisputed, there being an unchallenged stenographic report of some of the broadcasts. Enough to say that through regular broadcasts appellant diagnosed



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almost every ailment the human flesh is heir to; sometimes he told his patients to consult a doctor; much more often he prescribed remedies by numbers which could be obtained from drug stores throughout the middle west to whom he had furnished the prescriptions, and from whom he received a part of the price of some of the prescriptions. These diagnoses were made without an examination of the patient, and upon only such symptoms as the patient would give in a letter or telegram. One patient sent in an x-ray picture; appellant said, "I can't make much out of it"; nevertheless he diagnosed and prescribed. Another telegraphed she had a pain around her heart; he diagnosed it promptly as a kidney involvement and prescribed a diet and three prescriptions. Another wrote that he or she had a pain in the right side; appellant diagnosed it as "probably gall bladder" and prescribed one remedy "if you are a man" and another "if you are a lady." And so on and on.

One need not be skilled in medicine to understand the grave dangers to human life involved in diagnosis and prescription of such sketchy facts as are obtainable from a letter or a telegram; nor of the danger to thousands of others listening in who apply such advice to their own self-diagnosed diseases. It is no answer to suggest that the prescriptions are harmless in themselves; to prescribe bread pills to a diabetic whom insulin might save is to trifle with human life. The Court of Appeals of the District of Columbia passed upon the same question in *KFKB Broadcasting Ass'n. v. Federal Radio Commission*, 47 F. (2d) 670; in sustaining an order denying a renewal of the license of appellant's radio station, that court sustained the Commission's finding that appellant's radio diagnosis "is inimical to the public health and safety, and for that reason is not in the public interest." The trial court aptly said:

"Those methods are not only in conflict with the ethics of the profession but are in my opinion in conflict with the best interests of the public, and that irrespective of the value of the operations performed by him at the hospital for the amelioration of the prostate gland or of the benefits to individuals using prescriptions given through radio broadcasting, the possibilities of injury to the general public resulting from such methods are so apparent if such practice became general and usual that its mere statement is, I think, sufficient."

It is argued that reputable doctors prescribe over the telephone. It is one thing for a family physician, knowing his patient as well as he knows himself, to prescribe for some simple or prevalent ailment over the phone, and quite another to prescribe for the unknown ailments of total strangers over the radio. It is argued that newspapers operate medical question boxes and medical columns. Those which have fallen under our observation prescribe simple and well known remedies for definite and minor ailments. If such newspapers purport to diagnose and prescribe for serious and obscure diseases, they ought to be suppressed. It is no answer for one wrongdoer to point to another. Again, on one extreme is advice to keep your feet dry and to take a physic if you have a cold, and another to diagnose kidney trouble from a telegram saying there is a pain around the heart. It is for men trained in medicine instead of law to determine on which side of the line a particular case may fall. It was for the board to determine, within the limits of reason, what constitutes "unprofessional conduct."

That unprofessional conduct as so determined is also condemned by the American Medical Association does not vitiate the order. The board has determined that appellant's acts constitute unprofessional conduct. There is substantial evidence to support its finding. There is nothing to support the assertion that such finding is arbitrary or capricious. On the contrary, the weight of the evidence required the finding. The trial court has approved and we agree.

It appears then that the statute authorizes the revocation of a license for unprofessional conduct; that appellant was given ample notice of charges of such conduct and afforded an exhaustive hearing thereon; that there was overwhelming evidence to support the charges, the evidence being undisputed as to the most serious breach of professional conduct, diagnosing and prescribing without adequate information. It thus appears that appellant's license was rightly subject to revocation. With this background, we turn to the specific attacks upon the order.

The power of the state to protect its citizens against imposition by those purporting to practice the learned professions has been sustained without dissent for many generations. Nearly forty years ago Mr. Justice Brewer, speaking for the Supreme Court of the United States in *Hawker v. New York*, 170 U. S. 189, 194, 195, used or adopted this language:

"The physician is one whose relations to life and health are of the most intimate character. It is fitting not merely that he should possess a knowledge of diseases and their remedies, but also that he should be one who may safely be trusted to apply those remedies. Character is as important a qualification as knowledge, and if the legislature may properly require a definite course of instruction, or a certain examination as to learning, it may with equal propriety prescribe what evidence of good character shall be furnished. . . . The legislature, then, in the interest of society and to prevent the imposition of quacks, adventurers and charlatans upon the ignorant and credulous, has the power to prescribe the qualifications of those whom the state permits to practice medicine. . . . It is, no one can doubt, of high importance to the community that health, limb and life should not be left to the treatment of ignorant pretenders and charlatans. It is within the power of the legislature to enact such laws as will protect the people from ignorant pretenders, and secure them the services of reputable, skilled and learned men."

In March, 1935, Mr. Chief Justice Hughes, for the same court, held that a state board had the power to find a dentist guilty of unprofessional conduct who had extravagantly advertised his professional abilities; and in closing that opinion used this language entirely apposite here:

"We do not doubt the authority of the state to estimate the baleful effects of such methods and to put a stop to them. The legislature was not dealing with traders in commodities, but with the vital interest of public health, and with a profession treating bodily ills and demanding different standards of conduct from those which are traditional in the competition of the market place. The community is concerned with the maintenance of professional standards which will insure not only competency in individual practitioners, but protection against those who would prey upon a



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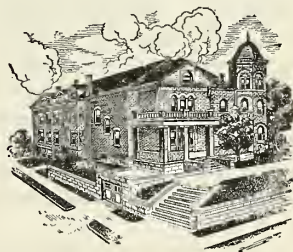
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public peculiarly susceptible to imposition through alluring promises of physical relief. And the community is concerned in providing safeguards not only against deception, but against practices which would tend to demoralize the profession by forcing its members into an unseemly rivalry which would enlarge the opportunities of the least scrupulous. What is generally called the 'ethics' of the profession is but the consensus of expert opinion as to the necessity of such standards." *Semler v. Dental Examiners*, 294 U. S. 608, 612.

Authorities to the same general effect may be gathered almost without number. A few may be found in the note.<sup>1</sup>

The Kansas statute has been sustained by the Supreme Court of the United States in this particular proceeding. Shortly after appellant was noticed of the hearing upon the charges preferred he brought an action in the state court to enjoin the hearing. The trial court dismissed his petition upon demurrer. The Supreme Court of Kansas affirmed. *Brinkley v. Hassig*, 130 Kan. 874, 289 P. 64. Appeal was taken to the Supreme Court of the United States. The appeal was dismissed because no substantial federal question was presented the court citing in support its earlier decision on the Kansas statute in the *Meffert Case*, supra, and its decision in *Hurwitz v. North*, supra, sustaining similar proceedings under the Missouri statute. *Brinkley v. Hassig*, 282 U. S. 800.

The parties being the same there as here, appellant is not entitled to a reexamination of issues there decided, both on the principles of *res judicata*<sup>2</sup> and because we are bound by the decisions of the Supreme Court of the United States. The points so foreclosed are: (1) The statute is constitutional notwithstanding the general language used in specifying grounds for revocation. (2) The complaint stated grounds for revocation under the statute, the Supreme Court construing it as follows:

"The complaint was by no means confined to challenge of the success of the licensee's gland operation, the claimed result of which is that dotards having desire without capability may cease to sorrow as do those without hope, and the complaint was not that the licensee is a quack of the common, vulgar type. Considered as a whole, the gravamen of the complaint is that, being an empiric without moral sense, and having acted according to the ethical standards of an impostor, the licensee has perfected and organized charlatanry until it is capable of preying on human weakness, ignorance and credulity to an extent quite beyond the invention of the humble mountebank who has heretofore practiced his pretensions under the guise of practicing medicine and surgery."

<sup>1</sup> *Roschen v. Ward*, 279 U. S. 337; *Graves v. Minnesota*, 272 U. S. 425; *Hurwitz v. North*, 271 U. S. 40 (where the board had no power to issue subpoenas); *Douglas v. Noble*, 261 U. S. 165; *Crane v. Johnson*, 242 U. S. 339; *McNaughton v. Johnson*, 242 U. S. 344; *Collins v. Texas*, 223 U. S. 288; *Reetz v. Michigan*, 188 U. S. 505; *Meffert v. Medical Board*, 66 Kan. 710, 72 P. 247, affirmed 195 U. S. 625.

Statutes which permit of revocation for "unprofessional conduct," "incompetency," "grossly immoral conduct" have been held valid in the large majority of jurisdictions notwithstanding their generality. *Green v. Blanchard*, — Ark. —, 211 S. W. 375, Annotation, 5 A.L.R. 94; *Medical Examiners v. Spears*, 79 Colo. 588, 247 P. 563, Annotation, 54 A.L.R. 1504, at 1520 et seq; *Yoshizawa v. Hewitt* (C.C.A. 9) 52 F. (2d) 411, Annotation, 79 A.L.R. 323; *State Dental Examiners v. Savelle*, 90 Colo. 177, 9 P. 693, Annotation, 82 A.L.R. 1184, 1188.

<sup>2</sup> Issues decided on the pleadings fall within the rule of *res judicata*. *Divide Creek Irr. Dist. v. Hollingsworth* (C.C.A. 10) 72 F. (2d) 859.

(3) The board may, with its own rules or without rules, proceed according to fair and reasonable methods to hold its hearing. (4) A review on the merits is not necessary; nor is the power to enforce attendance of witness or compel production of documents. (5) The board is not a judicial tribunal, and due process does not require a judicial trial, and the character of the hearing is not measured by standards of judicial procedure. (6) Affidavits may be used freely by appellant, and by complainant if necessary.

This decision disposes of many of the questions now argued. Appellant produced 32 witnesses who testified at length to their ailments prior to their operations and their fine health afterward. Several days were spent listening to these recitals which were all essentially the same. Appellant's counsel notified the board he expected to produce a thousand more. The board ruled he could use another day putting on oral evidence on that point and submit the testimony of the rest in affidavit form. Thirteen more selected witnesses testified and 364 affidavits of satisfied patients, and 75 affidavits as to his reputation as a surgeon and citizen, were offered and received. Complaint is made that the board did not devote the year to hearing these witnesses. The objection is frivolous. Even in judicial trials courts have power to prevent the proceedings from degenerating into a farce by limiting the amount of cumulative testimony.

It is argued that the board could not, in the time elapsing between the offer of the affidavits and the decision, have considered them. It is quite possible to digest the substance of a mass of similar affidavits in a very brief time, and there was evidence that the board "noticed the contents of every one of them." But cumulative testimony may be and routinely is curtailed without the privilege of supplementing it by affidavits at all. Complaint is made that some affidavits and letters were rejected by the board without sufficient foundation under the rule in *Brinkley v. Hassig*, supra. The letters for the most part gave reasons why the writer could not attend the hearing, and since there was no compulsory process, the letters were primary evidence that the writer would not come. Some of the affidavits used did not disclose the reason for nonattendance of the affiant at the trial. But it is to be presumed that the board and the Attorney General did their duty, and in the absence of a showing to the contrary, it will be presumed that affidavits were used only when it was not practicable to procure the attendance of witnesses. In any event, the affidavits were cumulative or upon inconsequential matters, and the error in procedure, if one there was, is not of sufficient importance to enable a court to say that a fair hearing was denied.

The principal contention now made is that the members of the board were prejudiced against appellant before the hearing started, and that some of them were active in instigating the complaint. Without detailing the evidence, it does appear that some of the board had expressed such prejudice, and doubtless all were in fact prejudiced. Doctor Hassig was president of the board. He was also secretary of the Medical Society, in which latter capacity he served as the intermediary through whom complaints were cleared, very much as the secretary of the State Bar Board receives complaints against lawyers, corresponds about them, and if a complaint is filed, sits as a member of the board. One of the board, after listening to testimony for three days, said he was ready to vote. The president told him that no vote



# CANNED FOODS AND THE PUBLIC HEALTH

## IV. BOTULISM

• Several of our readers have inquired as to the possibility of botulism resulting from the consumption of commercially canned foods. The canning industry is proud of the part it has played in the eradication from its products of this deadly type of food intoxication. We are glad to devote this space to a discussion of this important topic.

During recent years, the daily press periodically carries reports relating how one or more members of a family, or of a group of persons, were stricken after a meal, usually with fatal results. Sometimes these accounts describe how an "anti-toxin" was rushed to the scene—an indication that botulism was involved. These press reports often include the statement that a "canned food" was incriminated as the cause of the illness.

*We wish to emphasize that as far as the records go, these outbreaks without exception are not attributed to foods commercially canned in this country.* In practically every instance, it was found that the foods—usually of a non-acid or semi-acid nature—had been preserved at home by the use of inadequate heat sterilization processes (1). These press reports, by not stating correctly the type of food involved, have done much to cast unwarranted suspicion on commercially canned foods as possible causes of botulism.

Botulism, or acute toxemia due to *Clostridium botulinum*, is by no means a new affliction. As early as 1802—ninety-five years before van Ermengem discovered the true cause of the intoxication—warnings were issued against botulism. However, not until severe outbreaks occurred in this country some fifteen years ago, was it realized that cognizance should be taken of the fact that

foods canned by the methods used in those days could become contaminated with the toxin of this organism. This fact having been realized, the canning industry took immediate steps to prevent such contamination of their products.

Research was inaugurated and has been continued to which the industry has contributed not only financially, but also by the studies of scientists associated directly with the canning industry (2). The end result of these researches was the development of scientific methods of determination of heat sterilization treatments, or heat processes as they are known to the industry, which would be adequate to insure the safety of canned foods from the standpoint of botulism (3).

The effectiveness of the measures generally adopted by the canning industry of the United States is evidenced by the fact that no case of botulism attributable to an American commercially canned food has occurred during the past ten years (1a). Foods packed in commercial canneries are heat processed not only to insure protection from bacterial spoilage causing merely the loss of the food, but to render them safe from the standpoint of botulism, as well. In fact, a sterilizing process sufficient to insure the destruction of the most heat resistant strain of *Cl. botulinum* ever isolated is considered the minimum requirement of heat treatment of commercially canned foods. The National Canners Association has issued lists of scientifically determined processes for non-acid canned foods with which canners comply (4).

Such are the facts. The American canning industry offers its products to the consuming public for what they are; namely, wholesome and nutritious foods.

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1. a) 1935 Amer. J. Public Health, 25, 301  
b) 1935 J. Amer. Diet. Assn. 11, 18

2. [1936 J. Bacteriology 31, No. 1 P. 71  
1933 Amer. J. Public Health, 13, 108  
1922 J. Inf. Dis. 31, 650]

3. 1929 Natl. Res. Council Bulletin, 7, No. 37

4. 1931 N.C. A. Bulletin 26-L, Revised

*This is the twelfth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.*



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could be cast until all the testimony was in. The impatient member assented, and resumed his task.

The spectacle of an administrative tribunal acting as both prosecutor and judge has been the subject of much comment, and efforts to do away with such practice have been studied for years. The Board of Tax Appeals is an outstanding example of one such successful effort. But it has never been held that such procedure denies constitutional right. On the contrary, many agencies have functioned for years, with the approval of the courts, which combine these roles. The Federal Trade Commission investigates charges of business immorality, files a charge in its own name as plaintiff, and then decides whether the proof sustains the charges it has preferred. The Interstate Commerce Commission and state public service commissions may prefer complaints to be tried before themselves. If an administrative tribunal may on its own initiative investigate, file a complaint, and then try the charge so preferred, due process is not denied here because one or more members of the board aided in the investigation.

The publicity used by appellant made public prejudice well nigh inevitable. At any moment the program on the radio might change from cowboy songs to the diagnosis of disease and the extolling of the compound operation. That the members of the board had radios in their homes is no constitutional disqualification. The unusual thing about this case is that one issue to be tried was whether such radio talks were in fact given and whether they violated professional standards of conduct. Members of the board having radios thus had personal knowledge of the fact alleged, and necessarily formed some opinion as to whether they were in conflict with professional standards.

Assuming such preconceived prejudice, what is the answer? The statute provides but one tribunal with power to revoke a doctor's license, just as the Supreme Court of Kansas is the only body with power to disbar a lawyer. If such powers may not be exercised if the members of the board or court are prejudiced, then any lawyer or doctor who commits an offense so grave that it shocks every right-thinking person, has an irrevocable license to practice his profession if he can get the news of his offense to the court or board before the trial begins. That will not do. The commendable efforts of the medical and legal professions to raise the standards of their professions by cleaning their own houses cannot be set at naught by any such rule of law.

From the very necessity of the case has grown the rule that disqualification will not be permitted to destroy the only tribunal with power in the premises. If the law provides for a substitution of personnel on a board or court, or if another tribunal exists to which resort may be had, a disqualified member may not act. But where no such provision is made, the law cannot be nullified or the doors to justice barred because of prejudice or disqualification of a member of a court or an administrative tribunal. In *Evans v. Gore*, 253 U. S. 245, a question arose in which the members of the court had a direct personal financial interest. Adverting to this regretful circumstance, the court declined to renounce jurisdiction which appellant was entitled to invoke since "there was no other appellate tribunal to which under the law he could go." Cases have arisen where all the members of state supreme courts have been jointly sued by disappointed litigants; confronted with the choice of denying the suitor his right of appeal or hearing it themselves, the courts have heard the appeal. An exhaustive note

gathering and analyzing the cases from 12 states and from England and Canada may be found in 39 A. L. R. 1476. Other authorities may be found in 42 L. R. A. (N.S.) 788, L. R. A. (N.S.) 1915E, p. 858, and in 33 C. J. 989 and 15 R. C. L. 541. In *Stahl v. Board*, 187 Iowa 1342, 175 N. W. 777, 11 A. L. R. 185, the court suggested that one so disqualified might resign. But the law does not require a member of a court or a tribunal to resign his position because of an isolated case where he must act although interested. The trial court, after patiently hearing the evidence as to the attitude of mind of the individual members, disposed of the contention in this language with which we are in accord:

"Under the general terms of the statute, the Medical Board is empowered to protect the public against conduct which is clearly against public interests and therefore necessarily unprofessional, the same as if the legislature had specifically denounced and prohibits such practice. The members of the board were not disqualified because they knew of his methods prior to the hearing and condemned them. John R. Brinkley's methods were so notorious that ignorance of them by members of the board was an impossibility and such knowledge compelled condemnation."

Other matters argued do not warrant detailed discussion. Appellant called the members of the board as witnesses and their mental reactions to various bits of evidence were explored. Naturally the members could no more appraise the precise weight which they gave to each fact than can jurors or courts. But the inability to dissect the mental processes by which a finding is reached is not fatal; the Supreme Court, in *Des Moines Gas Co. v. Des Moines*, 238 U. S. 153, sustained an appraisal of a master who frankly stated that he "could not give the mental process by which this conclusion is reached any more than a jury could do." Findings of administrative tribunals, like verdicts of juries, cannot be overturned by a dissection of the mental processes by which the result is reached, as long as it is reached from a consideration of substantial evidence produced at the hearing. The trial court would have been well within its power if this minute exploration of the mental reactions of the members of the board to particular items of evidence had been drastically curtailed.

It was not the function of the trial court to re-try this case on the merits, and we are not persuaded that the learned trial court did so. Nor is it our function. Whatever may have been the attitude of the trial court is now immaterial, for this is an equity appeal. We have examined the record and readily conclude that appellant's constitutional rights have not been infringed.

The decree accordingly is AFFIRMED.

A true copy.

Attest:

(SEAL)

Albert Trego,

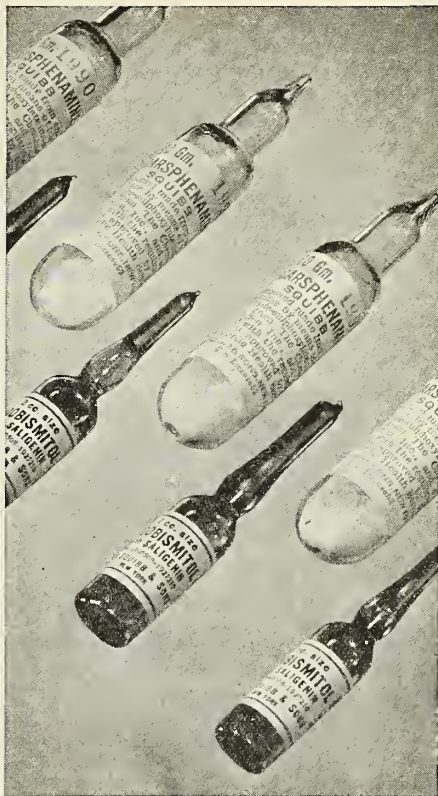
Clerk U. S. Circuit Court of Appeals, Tenth Circuit.

#### AUXILIARY COMMITTEE MEETING

A joint meeting of the Auxiliary Committee and the officials of the Kansas Women's Auxiliary was held in Wichita on March 31.



# 13,198 cases of syphilis



**I**N A RECENT REPORT\* dealing with the results of treatment in 13,198 patients with early syphilis, the value of persistent and continuous treatment is stressed. A minimum of from 12 to 18 months of continuously applied treatment with alternate courses of an arsphenamine and a heavy metal was found to produce by far the most favorable results.

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\*Martenstein, H.: Syphilis Treatment: Enquiry in Five Countries, *League of Nations Quart. Bull. Health Organ*, 4: 129, 1935.

The following subjects were discussed: Establishment of a permanent archive for auxiliary records in the central office; utilization of the central office to assist in forwarding bulletins and in making auxiliary state meeting arrangements; a socialization information project wherein packets of material on that subject will be forwarded to the various auxiliary chapters; a public information project wherein the auxiliary will cooperate with the Society Public Health and Education Committee in providing speakers on medical subjects before lay groups; a scientific exhibit project where the auxiliary will assist the Society, Public Health and Education Committee in providing exhibits for state and local lay meetings and fairs; a library project wherein approved books on medical subjects will be placed in various public libraries of the state; assistance to the Society Committee on Public Policy; ways and means to increase auxiliary membership; an auxiliary section in the Journal; and affiliation with parent-teacher associations, the Federation of Women's Clubs, and other lay groups.

### MEMBERS

Dr. M. W. Carlson, formerly of McPherson, has removed to Ellinwood where he will continue his practice.

Dr. O. W. Davidson, Kansas City, was a guest speaker at the annual meeting of the Kansas State Dental Association held in Salina, Kansas, April 27, 28, and 29. His subject was "Medical and Dental Problems."

Dr. Clifton Hall, of the Kansas State Board of Health, Topeka, spoke on "Some Phases of Tuberculosis in Children," before a meeting of children and parents in Chanute on March 24.

Dr. R. J. Lanning, Junction City, was appointed county physician and health officer of Geary county, to fill the vacancy occasioned by the death of Dr. W. S. Yates.

Dr. H. E. Morgan, Fredonia, was appointed Wilson county coroner, as successor to the late Dr. F. M. Wiley.

Dr. L. M. Tomlinson, Harveyville, has established a branch office at Dover and will divide his time between the two towns.

### COUNTY SOCIETIES

The Barton County Medical Society held their regular dinner-meeting in Great Bend, on March 27, with Dr. C. H. Warfield, head of the department of radiology at the Cook County Hospital, Chicago, Illinois, as the guest speaker. His subject was "Bone Tumors."

Members of the Bourbon County Medical Society held a meeting on April 20 in Fort Scott. Dr. J. B. Weaver and Dr. H. E. Carlson, both of Kansas City, Missouri, discussed "Acute and Chronic Osteomyelitis" and "Ureteral Pain."

Dr. Ned R. Smith, Tulsa, Oklahoma, was the speaker at a meeting of the Butler-Greenwood County Medical Society in Eureka on April 10. His subject was "Mental Diseases."

Dr. G. C. Unrein, Hays, was recently elected as secretary of the Central Kansas Medical Society.

A dinner-meeting of the Cowley County Medical Society held in Winfield on March 19, honored Dr. O. B. Wyant, Arkansas City, who celebrated his fiftieth anniversary in medical practice. Following the dinner Dr. P. F. Theis, Arkansas City, spoke on "The Treatment of Pneumonia" and Dr. H. H. Jones, Winfield, spoke on "The Medical Treatment of Gall Bladder Trouble."

The Crawford County Medical Society met in Girard on April 16 for a dinner-meeting. Speakers on the program were, Dr. George Kirby Sims, Bolivar, Missouri; Dr. Burleigh E. DeTar, Joplin, Missouri; and Dr. C. M. Gibson, Pittsburg.

The Ford County Medical Society held their regular monthly meeting in Dodge City on April 10. Following a dinner the program included: Dr. J. H. Norman, Pueblo, Colorado, who spoke on "Bone Tumors"; Dr. Royal Finney, Pueblo, Colorado, on "Epochs of Heart Disease"; and Dr. Richard Speirs, Spearville, "Narcoplexy."

Dr. S. T. Millard, Topeka, spoke on "Some Highlights of Dermatology for the General Practitioner" at a meeting of the Franklin County Medical Society in Ottawa on April 12.

Members of the Leavenworth County Medical Society held a meeting on April 13 in Leavenworth with Major P. E. Duggins, Fort Leavenworth, as the guest speaker. His subject was "Cesarean Section."

A meeting of the Marion County Medical Society was held in Marion on April 1. Dr. R. S. Haury, Newton, was the speaker on the program.

The physicians in Wabaunsee county recently organized a county medical society and elected Dr. L. M. Tomlinson, Harveyville, as president, and Dr. C. L. Youngman, Harveyville, as secretary. Dr. F. L. Loveland and Dr. J. L. Lattimore, both of Topeka, were speakers, at a meeting held April 24 at Maple Hill.

A meeting of the Sumner County Medical Society was held in Wellington on March 20 with Dr. Hal Marshall, Wichita, Dr. Ray, M. Balyeat, Oklahoma City, Oklahoma, and Dr. J. M. McGrew, Wellington, as the speakers. Their subjects were respectively, "The Allergic and Rhinologic Management of the Nose"; "The Intracheal Use of Iodized Oil"; and a "Case Presentation."

The Washington County Medical Society met on April 14 in Washington. Dr. J. Harold Lynch, Fairbury, Nebraska, presented a motion picture of the following: Injuries to the extremities and their repair; technique of blood transfusion—direct method; and technique of spinal anesthesia.

A business meeting of the Wilson County Medical Society was held in Fredonia on April 13.

Members of the Tri-County Medical Society met in Harper on April 21, with Dr. W. F. Bernsdorf of Winfield, and Dr. R. A. West, of Wichita, as speakers.

The April 21 meeting included the following speakers and their topics: Dr. H. R. Wahl, "Pathological Con-



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ference"; Dr. J. A. Billingsley, "The Acute Eye"; and Dr. L. B. Spake, "Cause and Treatment of Nasal Hemorrhage", all of Kansas City.

Dr. Charles W. Tidd has recently joined the staff of the Menninger Clinic to practice psychiatry and psychoanalysis. Dr. Tidd was associated with the Menninger Clinic in 1932 and since then has been a member of the staff of the Compton Sanitarium, Compton, California. He is a graduate of Northwestern University Medical School.

Three new residents in psychiatry have recently been accepted at the Menninger Clinic, Topeka. Dr. Carroll C. Carlson, from the Western State Hospital, Fort Steilacoom, Washington, who received his training at the University of Oregon Medical School; Dr. H. N. Roback, from the pathological department, Mount Sinai Hospital, New York City, who received his training at the University of Berlin in Germany and McGill University; and Dr. D. L. Shifflet from the Civilian Conservation Corps, Pierre, South Dakota, who was graduated from the University of Pennsylvania Medical School.

Kansas Medical College. He was a member of the Shawnee County Medical Society.

Dr. Edwin C. Morgan, 51 years of age, died at his home in Clay Center on April 27. He was born in 1885 and received his medical training from the Northwestern University School of Medicine, and graduated from there in 1910. He was a member of the Clay County Medical Society, a member of the Society Committee on Public Policy and Legislation, and a member of the Kansas Board of Medical Registration and Examination.

Dr. Guy A. Smith, 53 years of age, died March 17 at the Bethany Hospital in Kansas City, Kansas. He was born in Fort Wayne, Indiana, in 1883. He was a graduate of Indiana State University in 1905 and served his internship at the Fort Wayne Hospital, Fort Wayne, Indiana. He went to Kansas City, shortly after his graduation from the medical school and had practiced there for the past twenty-seven years. He was a member of the Wyandotte County Medical Society.

Mr. Roy Koger, Kansas representative for the x-ray Division of the General Electric Company, died at St. Francis Hospital in Topeka, on April 25.

### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending April 25	Month ending March 21
Scarlet Fever .....	1881	1317
Chickenpox .....	726	699
Pneumonia .....	637	540
Mumps .....	458	465
Influenza .....	334	390
Whooping Cough .....	162	165
Smallpox .....	157	226
Syphilis .....	101	61
Measles .....	79	47
Tuberculosis .....	70	77
Gonorrhea .....	70	52
Diphtheria .....	63	53
Vincent's Angina .....	40	21
Erysipelas .....	32	45
German Measles .....	10	27
Meningitis .....	9	8
Cancer .....	5	5
Pink-eye .....	4	12
Undulant Fever .....	4	2
Typhoid Fever .....	4	2
Poliomyelitis .....	0	3
Encephalitis .....	0	2

### DEATH NOTICES

Dr. H. L. Alkire, 73 years of age, died in Topeka on April 27. He had practiced in Topeka for 44 years. He was born in Springfield, Illinois, on November 17, 1862, and received his pre-medical training at the University of Kansas. He graduated from the Jefferson Medical College in 1887 and first started practicing in Logan, Kansas. He went to Topeka two years later and practiced until 1933. During 1904, he was dean of

### NEW BOOKS RECEIVED

**ALLERGY OF THE NOSE AND PARANASAL SINUSES** by Dr. French K. Hansel, assistant professor of clinical otolaryngology, Washington University School of Medicine. Published by the C. V. Mosby Company, St. Louis, Missouri, at \$10.00 per copy.

**PARENTERAL THERAPY** by Dr. Walter F. Dutton, formerly medical director Polyclinic and Medico-Chirurgical Hospitals, Graduate School of Medicine, University of Pennsylvania, and Dr. George G. Lake, formerly special lecturer in hygiene, Purdue University, and present editor of "Clinical Medicine and Surgery." Published by Charles C. Thomas, Publisher, Springfield, Illinois, at \$7.50 per copy.

**SURGICAL CLINICS OF NORTH AMERICA.** Chicago Number, February 1936. Published by the W. B. Saunders Company, Philadelphia, at \$12.00, paper. \$16.00, cloth, per copy.

**THE BALANCED DIET**, by Dr. Logan Clendening, professor of clinical medicine University of Kansas School of Medicine, Kansas City, Kansas. Published by the D. Appleton-Century Company, New York, at \$1.50 per copy.

### CLASSIFIED ADVERTISEMENTS

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# THE JOURNAL

of the

## Kansas Medical Society

VOL. XXXVII

JUNE, 1936

No. 6

### REMISSIONS IN PROGRESSIVE MUSCULAR DYSTROPHY\*

DANIEL V. CONWELL, M.D.

Halstead, Kansas

Remissions have occurred in progressive muscular dystrophy after persistent use of viosterol and of haliver oil with viosterol in this clinic with such regularity that the experience seems worthy of record. Not only was the progress of the disease checked but there was return of function, which varied from improved motor power to complete return to normal. The amount of improvement was governed by the duration of the disease and the extent of muscle loss before treatment was instituted.

In 1930, after four months of viosterol therapy for rickets (Case I) a coexisting, far advanced, progressive muscular dystrophy showed unexpected improvement. A search of the literature failed to reveal viosterol as a treatment for muscular dystrophy but considering our past failures with this disease the incident was mentioned to subsequent muscular dystrophy patients. Some of them elected to follow this regime and in this group remissions have occurred. Improvement in this disease was so unusual that the following six cases are reported.

#### CASE I

J. D., a boy aged nine, came to the outpatient department on May 3, 1929, complaining of inability to walk. The family history was negative. He was a first child, full term and the delivery was normal. He presented a feeding problem and was malnourished until the age of two years. His appetite continued to be irregular and finicky. He was subject to upper respiratory infections and had chickenpox at the age of seven.

At the age of six he began to have difficulty in walking, at first losing his balance on uneven surfaces and later he fell frequently. Getting up from the floor required the use of his arms. At seven and one-half years, he began to have trouble in raising his arms. The weakness gradually increased, involved the trunk muscles and was followed by wasting of the muscles of the affected parts. Since March, 1929, his arms and legs have been useless and he has been unable to sit up without support.

The examination showed a small boy of stated age whose speech and mental state were normal. He could not pout nor whistle. He could not raise his head from or turn over on the bed. The pulse was ninety-six, and the blood pressure ninety systolic, and sixty-five diastolic. The chest presented a rachitic rosary. The hand and forearm muscles were fairly strong but the musculature of the shoulders and arms was markedly atrophic and almost completely paralyzed. He could not sit up without support and then the position was an exaggerated lordosis. When attempts were made to lift him, he would slip through the hands. There was marked bilateral wasting of the buttock, thigh and anterior tibial group muscles with pronounced weakness. He could hardly raise his knees from the bed. The electrical reactions were markedly reduced. Except that he could make his wishes and needs known, he had to be cared for like a baby. The urine findings were normal and the blood Wassermann was negative.

Because of the rickets, he was given three drams of cod liver oil a day, which was continued until February 28, 1930. There was some improvement in his appetite but the physical findings were unchanged. Beginning on that date he was given ten minims of viosterol daily. On June 27, 1930, he could raise and hold his head from the bed and turn

\*Read before the Southeast Kansas Medical Society on March 25, 1936, in Fredonia.

over in bed quite easily. While he could not raise up to a sitting position without aid, he could remain erect and without support when placed in that position. He was able to raise and hold either arm above his head, feed, dress and undress himself, kick quite well and move about on an "Irish Mail" car. The reflexes remained absent but the sensations were normal. The electrical reactions were a little stronger than on the previous examinations. Treatment was discontinued in January, 1931. The improvement continued slowly until July 1931. After that time part of the gain was gradually lost. In May 1935 he could not set up without support but could handle his books, feed himself and help dress and undress himself.

#### CASE II

R. B., a boy aged fourteen, came to the outpatient department July 17, 1930, complaining of weakness and wasting of both arms and shoulders. The family history was negative. He had an adenoidectomy at four, whooping cough at five, measles at nine, influenza at eleven and tonsillectomy at thirteen years. In September, 1929, he began to have trouble raising his right hand above his head. Weakness, followed by wasting, appeared later in the left shoulder, right arm and left arm muscles. His eating habits had always been irregular. His favorite meal consisted of hamburger sandwiches.

On examination, he wrinkled his forehead, pouted and whistled poorly. There was fairly marked weakness and atrophy of the muscles of both shoulders and arms, more marked on the right and most marked in the right triceps. There was a little weakness of the forearm muscles. The scapulae were winged. The legs were normal. The reflexes were diminished throughout with absence of the right biceps, both triceps and both radial reflexes. The sensations were normal. The faradic and galvanic reactions were poor over the shoulders and arms. The urine findings, blood count and blood Wassermann were normal.

He was started on thirty minims of viosterol daily. This he took regularly until October 20, 1930, when the arms and shoulders were definitely stronger.

When seen on December 27, 1930, he reported he had followed treatment about one-third of the time. There was some increased weakness of the right triceps muscle while the

motor power otherwise seemed stationary. He had abandoned treatment for the nine months preceding September 19, 1930, when the examination showed more marked weakness of the shoulders and arms with absence of all deep reflexes, except that the tendo achilles responses were one plus.

He reported three months' regular use of the oil on December 28, 1931. There was no apparent improvement or loss objectively or subjectively. He continued to follow treatment regularly until April 13, 1932. There was improved strength of the shoulders and arms and some increase in the circumference of the arms. From then until June 8, 1932, he discontinued treatment. The motor power remained stationary.

He then took the oil part time until April 22, 1933, when he reported a very definite gain in strength. He could raise his arms above the shoulder level. The left arm circumference had increased. The muscles of the face, both shoulders and arms were stronger.

On July 18, 1934, he reported intermittent treatment. He was slowly gaining strength and was able to run a filling station, drive a car or motorcycle and play golf. The gain in motor power of the shoulders and right arm had been maintained, there was further improvement in the strength of the facial and the left arm muscles and there was normal strength of the forearm muscles. The electrical reactions were stronger. During 1935 he followed treatment part time and the gradual improvement continued.

#### CASE III

G. C., a boy aged six, came to the clinic on March 9, 1931, complaining of weakness of the legs and inability to control them. The family history was negative. He had measles at the age of four. His dietary habits had always been irregular. Early in the fall of 1930, the parents noted the boy had difficulty with his legs when he ran. Walking became increasingly difficult. He had trouble balancing and going up steps. Getting up from the floor could only be accomplished by the aid of the arms.

Examination showed a fairly well developed boy of six. His speech, mental state and cranial nerves were normal. The neck and upper extremity muscles were strong. The thigh muscles were flabby and the calves well developed and firm. The strength at the hips was poor, fair at



the knees and good at the ankles. He was able to kick feebly but awkwardly. He assumed a moderate lordosis posture on standing and walked with a waddling gait. He walked up steps very slowly and with the aid of his arms. He got up from the floor by rolling over on his hands and knees and using his hands on the floor and thighs. The bicep jerks were one plus, knee jerks absent and the tendo achilles reflexes one plus. The sensations were normal. The electrical reactions were diminished. The urine findings and blood count were not remarkable and the blood Wassermann was negative. He was placed on ten minims of viosterol daily.

While following this treatment, no progress could be noted by the parents for three months, though there seemed to be a gradual gain in the strength at the hips and definite improvement of the thigh muscle tone and strength.

On June 10, 1931, the awkwardness and lordosis were definitely less.

By September 7, 1931, he could walk well, the lordosis was gone and he was able to sit down on a low seat and arise with little extra effort. He walked up steps with slightly less than average speed and could rise from the floor without the use of his arms. The thigh muscles were firm and the electrical reactions were about normal. The knee jerks were one plus. He was able to run quite well. The viosterol was decreased to six minims a day. Continued improvement was noted and, in November of 1931, he was able to use his legs well, but tired more quickly than other children. Treatment was discontinued in March 1932. In the summer of 1933, he was considered normal in activity and strength.

#### CASE IV

J. C., a housewife aged sixty-six, came to the out-patient clinic on July 1, 1933, because of trouble in walking and arising from a chair. The family history was negative. A fistula in ano was treated surgically at forty-eight. Her menopause was completed at fifty-five. A contact dermatitis appeared at the age of sixty-four. During the past year she had followed a low protein diet because of an essential hypertension.

About May 1, 1933, her thighs began to sting, tingle and burn. She experienced increasing difficulty getting into and out of a chair and on going up steps. The gait became waddling on level surfaces and she could not

walk on uneven ground without falling. Work in her flower garden became impossible. She got up from the ground by turning over on her hands and knees and using her hands on her knees and thighs.

The examination showed normal cranial nerves. The muscles of the upper extremities and trunk were strong. The pulse was eighty-four, and the blood pressure was 160 systolic, and ninety diastolic. The strength was poor at the hips, fair at the knees and good at the ankles. The thigh muscles were hypotonic and the electrical reactions decreased. The biceps jerks were two plus, knee jerks absent and the tendo achilles reflexes one plus. The sensations were normal. The gait was slow and waddling. She had to use her arms on getting into and out of a chair, on steps and on getting up from the floor. She fell promptly when squatting. The urine findings, blood count and blood Wassermann were normal.

She was given nine minims of haliver oil with viosterol daily. By July 30, 1933, the patient thought her legs were stronger and she seemed to have improved use of her lower extremities, but continued to lose her balance readily and need her arms on arising. The waddling gait persisted.

On September 8, 1933, she could get up from a chair without the use of her arms but needed their help on arising from the floor. She walked quite well.

October 16, 1933, the examination showed normal use of her hips and thighs. The electrical reactions were normal. She then took the viosterol every other week until January 10, 1934, when it was discontinued. The strength of the lower extremities continued normal and there were no signs of a relapse in November 1935.

#### CASE V

G. S., a school boy aged ten, came to the clinic on August 2, 1934, complaining of weak legs. The family history was negative. His tonsils were removed at the age of five. His appetite was variable and largely limited to starchy foods. During the winter of 1933-34 a gradual weakness of his legs was noted, first as difficulty in running. In March, 1934, he observed greater need for balancing when standing or walking. His knees would give way and he fell frequently. He had trouble going up steps and getting out of a chair. Following a week of fever, malaise and lassitude in April,

1934, his legs seemed to lose strength more rapidly.

On examination the cranial nerves were normal. His strength was good at the ankles, fair at the knees and poor at the hips. He had trouble going up steps and getting out of a chair. A pronounced waddling gait was present. He had to use his hands to get up from the floor. He could not run or hop. The electrical reactions were diminished. The deep reflexes were absent.

He was started on six minims of haliver oil with viosterol daily. By September 5, 1934, there were no apparent objective or subjective changes. On October 28, 1935, he could run slowly for a short distance without falling. He could walk faster, with less waddling and much less tendency to fall though he tired quickly. He had less difficulty getting out of chairs and going up steps. The biceps jerks were one plus, knee jerks one plus and tendo-achilles reflexes one plus.

On January 14, 1935, he stated that he was able to play soccer but could not run as fast or kick a ball as far as his playmates. He still tired readily. On examination, if he was not hurried, he carried out all strength tests normally. If he was hurried, a little weakness and awkwardness became apparent.

He was still taking the oil regularly on March 23, 1935, when he reported continued good use and much less tiring of his lower extremities. He was particularly pleased by the returned ability to jump and touch an awning which had been beyond his reach for eighteen months. On June 14, 1935, his strength was normal and the faradic and galvanic responses were normal.

The following case report is included, because of the possible working condition factor.

#### CASE VI

R. C., a car inspector aged forty-seven, entered the Halstead Hospital on March 30, 1935, complaining of weak legs. The family history was negative. He had diphtheria at the age of six. He had worked nights for the past thirteen years. In the autumn of 1934, his legs began to tire. His work required squatting and he observed increasing difficulty in arising. His legs became awkward and weak and, by February 11, 1934, he could not walk well enough to carry on his work.

Examination showed bilateral weakness of the shoulder muscles. The lower extremities

were strong at the ankles, fairly strong at the knees and very weak at the hips. The thigh muscles were flabby. He could just raise his knees from the bed. The knee jerks and tendo-achilles reflexes were absent. The sensations were normal. The electrical reactions were reduced. Lordosis was present on standing. He got out of bed with great difficulty and had to use his arms to arise, to stand or to walk. The gait was waddling and slow. He dropped heavily into a chair and arose only with the use of his arms. He could not rise from the floor without the aid of two attendants. The blood count, blood Wassermann, urine and spinal fluid findings were normal.

He was given nine minims of haliver oil with viosterol daily, kept at rest and given daily massage. By June 15, 1935, the strength at the shoulders was about normal. He could raise his legs easily and well from the bed and there was improved tone and strength of the thigh muscles. The electrical reactions were stronger. He had great difficulty in walking and handling himself when out of bed. During the summer of 1935 he used crutches to balance himself on walking. In November, 1935, he could walk in the house without assistance.

#### COMMENT

A history of heredity factor was unobtainable in these six patients. The four children had been on faulty diets of their own selection. One adult had followed a low protein diet for a year and the other adult employed a well balanced diet but had been exposed to the sun very little for thirteen years. There was no uniformity of the dietary faults. Three months of treatment was usually necessary before improvement could be observed. No untoward reactions were noted.

The return of motor power was incomplete in three and complete in three patients. Of the former, one has relapsed, one is still disabled and one carries on about normal activity. The latter three patients have returned to normal activity and two have discontinued treatment, one for about two and one for four years, without signs of relapse.

—JKMS—

Never give a definite opinion as to how long a patient suffering from pulmonary tuberculosis will live, for the only certainty is that if you do, you will be wrong.—Samuel Gee.



## SOME MODERN CONCEPTS OF CANCER\*

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Needless to say, I appreciate the compliment of being asked to speak before an audience of this calibre. I am somewhat of a "left handed" member of this society, having been elected after graduation from medicine, and no one is at more of a loss to know the reason for even this later recognition than I am. Some students gain speed toward the later years in medicine and may develop slowly the habit of working for fun. To such the habit of work is acquired often by force of circumstances.

When your chairman asked me to give him the subject of my talk I rather hurriedly turned in one which covers a good many fields. On giving the matter more thought I became aware that the proper knowledge for a good presentation of this subject would mean that one should possess a working familiarity with the sciences of genetics, chemistry, biology, physiology, physics, pathology, surgery, and radiology. In trying to encompass this large order, however easily I touch the high places, I no doubt remind you of the small boy whose eyes were always larger than his stomach.

### THE TERM CANCER

The term "cancer" as it is often understood by the uninformed is considered to be a single disease. In the best informed circles at the present time cancer is considered not one disease but a multitude of diseases. We ordinarily think of cancer in terms of the cell of origination. So far as I know there is no cell in the body which can not at almost any stage of its growth cease to grow in an orderly normal manner and begin to grow in an unrestrained fashion. When it is understood that any cell in the body at any period of its life history may for some reason or another receive this growth stimulus, it is readily understood how the number and types of possible malignant growths might be almost innumerable. As a matter of fact, this is nearly the case. And even besides malignant growths to which the term "cancer" is ordinarily applied, there are also a large number of benign growths. Moreover, the gradation between certain types of malignant growth and certain types of benign growths is not always sharply defined.

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## INCIDENCE

It is well known that the highest incidence of ectodermal malignant tumors is from the beginning of the fourth decade on, reaching a maximum in the sixth decade. But Pack has shown that in tumors developing from mesodermal tissue, the incidence varies only slightly from the ages of twenty to ninety years when the number living of each age group is considered. Largely because of cancer in the female genital organs and the breast, the female of the species runs about a nine per cent higher incidence of cancer than the male.

### CONCERNING THE ETIOLOGY

Needless to say, the true reason—the true cancerigenic agent—that causes a given cell suddenly take on unrestrained growth characteristics is not known. A great deal is known about various irritating cancerigenic agents which secondarily contribute to malignant growths but these really have no bearing on the fundamental problem of the true nature of the cancer process. Practically all research workers at the present time agree that cancer is not a germ or virus disease. Diet seems to have little or no relationship to the disease. The excess or deficiency of hormones or vitamins certainly does not appear to be the universal cause of cancer although it is not to be denied that certain conditions may be influenced by diet, chemicals, and hormones. Syphilis does not contribute to the production of cancer in a general sense; only in the sense causing scars in certain locations which may afterwards lead to malignant degeneration. Tuberculosis was once thought to be antagonistic to cancer but this view is not held now.

Generally the conception that a single trauma acting alone is capable of producing a malignant tumor is given little credence. To trauma must be added additional factors, such as delayed healing, infection, chronic irritants, or possibly a hereditary factor or the factor of local predisposition. If one adheres strictly to the preceding criteria, the probability of the occurrence of true traumatic cancer in man is largely nullified.

In animals considerable work has been done by inbreeding which would indicate in the laboratory at least that heredity can be made to play a predominant factor in the susceptibility to cancer. Maude Slye has been the most prominent worker in this particular problem. More recently Lacassaigne working along similar

lines with mice inbred so as to be susceptible to cancer, found that when an oestrogenic substance was injected the production of mammary cancer depended upon a hereditary susceptibility. Along these lines certain observations on the occurrence of cancer in identical twins is interesting. Although a few special rare tumors do have a relation to heredity, the general incidence of cancer in the human, however, is not thought to be influenced particularly by a genetic factor. Usually a history of cancer in a certain family is best interpreted as a combination of other secondary factors such as age, occupation, habits, anatomical and physiological peculiarities.

The most outstanding contributing cause of cancer in the practical sense in its various forms is the chronic irritants to which the human body is exposed from the cradle to the grave. To enumerate all these factors is almost impossible. But one of the most prominent is the result of the application of heat such as sunlight and so forth, and exposure to weather over a long period of time. Within the mouth a striking example of an irritant long continued is that of dirty and jagged teeth or a hot pipe stem. A cigarette is often irritating to the lip. A contributing factor in cancer of the female genital organs is often some chronic form of inflammation or a scar resulting from child birth. Lack of cleanliness often, but in rarer instances tar, pitch, dye stuffs, petroleum and other irritants have played a role in the production of a skin cancer. It is not unusual to find examples of cancer developing in old x-ray or radium burns. The development of breast cancer possibly has some relation to irritating retention products. Adair has produced some evidence that cancer of the breast is considerably more common in women with an abnormal nursing history. Infection with certain animal parasites may predispose to cancer. Bilharzia infection of the bladder is an example of such. Workers exposed to coal tar derivatives after working about two years show a five per cent increase in the incidence of cancer of the bladder. The increase in bronchiogenic carcinoma has been attributed to the increase of coal dust and gases from automobiles in the industrial areas and more thickly settled areas. However, this factor still needs confirmation. Sunlight undoubtedly affects the white race and albinos and persons with red hair more than it does the darker races. The negroes are least effected by this irritant. The

list of chronic irritants which may increase the incidence of cancer is almost innumerable.

#### MODERN CANCER RESEARCH

Thirty-five years ago it was impossible to produce cancer experimentally. To-day it can be produced in the lower animals in many ways. Warburg has shown that cancer cells are characterized by the loss of respiratory function and a gain in lactic acid production. This would tend to show that cancer cells can survive where normal cells cannot survive. No method of controlling this metabolic anomaly has as yet been found. Kennaway and Cook have shown that high distillation products of coal tar are remarkable cancerigenic agents in animals and the further discovery that these tar derivatives are closely related chemically to certain secretions of the body such as oestrin and bile acids is very suggestive. Cook obtained from bile acid by a process of oxidation and dehydration methyl cholanthrene which on experimentation proved to be an active cancer producing agent. Some of these cancerigenic coal tar derivatives were found also to bring on menstruation in ovariectomized animals and in immature animals to rather rapidly produce sexual maturity. Also several of the hormones in the pituitary, testes, and ovaries have produced an overgrowth of cellular tissue which had the appearance of being of a pre-cancerous nature. Some of the lesions seemed to be of true cancerous type. When malignant degeneration was faced there was usually a secondary factor of trauma or infection which seemed to play a part.

The anti-rachitic (vitamin D) vitamine was found to be clinically related to the anthracene series and was also found to possess oestrogenic properties.

Waterman and others have endeavored to demonstrate the existence of a constitutional predisposition to cancer hereditarily transmitted and generally supposed to consist in a relative alkalosis. No confirmation of this work has been as yet obtained, however.

Ewing states that the adherents to the parasitic theory have rallied under the banner of the chicken sarcomas. But most workers agree now that these sarcomas are peculiar to this particular species. Murphy has shown that the properties of this agent are those of an unorganized chemical one and that the agent is probably largely micro-organic.

Cancer research has improved vastly in recent years and now enjoys the support of com-



petent men in nearly every branch of science. Specific problems are being attacked and as Ewing notes the era of free speculative generalization of cancer has largely passed.

#### DIAGNOSIS

Modern diagnosticians and pathologists are cognizant of the fact that cancer in one organ differs from cancer in another organ and that the same organ may have different forms of cancer. In the diagnosis these forms should be emphasized. By identifying the tissue of origin the tumor pathologist tends to reveal the life history of the growth. For example, ectodermal carcinoma shows many varieties with a different clinical course, mode of recurrence, a different prognosis and a varying reaction to treatment according to histogenesis. The degree of malignancy as based on the cellular characteristics and the general structure, may to a certain extent be estimated by the pathologist. Similarly he should be able to predict to a certain extent the relative radiosensitivity of the growth after consideration of the cell of origin, the vascular structure, the character of the tumor bed, the type of intracellular stroma, and the presence or absence of infection.

Besides being aware of the microscopic peculiarities of tumors the diagnostician should be familiar with certain physiological states. In certain giant cell tumors and certain bone sarcomas the physiology of the parathyroid glands is of importance. When such tumors are suspected studies of the mobilization of the blood calcium should be made. In the diagnosis of testicular neoplasms Ferguson has shown the value of quantitative tests for antuitrin or Prolan A. In certain ovarian tumors the cells or origin may be defined when appropriate hormonal studies have been made. Adrenal gland tumors display a peculiar clinical picture of disturbed adrenal physiology as do pancreatic and pituitary gland tumors.

Ewing states that as far as the pathologist is concerned the situation has reached a point where it is best for him instead of putting the tumor in formalin as formally, to also put some of it in the ice box for further biological study and then join the clinician for further clinical investigation.

#### TREATMENT

Although without doubt neither irradiation methods or surgery have given the final answer insofar as therapy is concerned, the three most effective weapons of attack in cancer therapy

are: the x-ray, radium, and surgery. Surgery is the oldest weapon. Cancer surgery in recent years has been modified considerably, but surgery is still the most acceptable method for many types of cancer, especially the early types. Many new surgical procedures have been developed to be used in conjunction with radium and x-ray, the so-called "surgery of access." Now the surgeon before considering operation has also to consider the possibilities of irradiation therapy alone or in conjunction with surgery. Therefore, today in many ways the demands upon surgery have become heavier than before.

The use of x-ray and radium in the treatment of cancer is the more recent contribution. Many of the changes in the treatment of cancer during the last twenty-five years have been brought about by this newer knowledge. After starting with considerable hesitation and at first by using only empirical methods, the gradual development of irradiation therapy has now largely reached a position where one may prescribe a lethal tumor dose for some types of tumors with a fair degree of accuracy. A brief review of some of the fundamental conceptions pertinent to irradiation therapy should be of interest.

#### FUNDAMENTAL CONCEPTIONS PERTINENT TO IRRADIATION THERAPY AND TO IRRADIATION VERSUS SURGERY

In the beginning of x-ray therapy Bergonne and Tribondeau laid down the law that rapidly growing malignant tissue was more susceptible to irradiation than normal tissue. In other words, that an adult differentiated tumor is more radio-sensitant than embryonal or more undifferentiated cells. In 1912 Lazarus-Barlow showed that cells in a state of active mitosis were less resistant to irradiation than resting cells. These laws supplied the only basis for irradiation therapy.

Almost a decade and a half ago, Broders emphasized anew the importance of the degree of cellular differentiation insofar as prognosis was concerned. Broders demonstrated that to a certain extent he could estimate the prognosis by taking into consideration the percentage of undifferentiated cells in the various groups. Some criticism of this conception was made immediately. Probably the most important was that this conception does not quite take into consideration the length of time the tumor has been present and the size of the growth. As a matter of fact, there is a distinct tendency for

the cellular picture to be more malignant as the size of the growth is increased. Soon it was noted that in certain types of tumors the more undifferentiated the tumor appeared the more radio-sensitive the tumor was and on the other hand the more nearly the tumor assumed adult cellular characteristics, the more nearly the sensitivity approached that of normal tissue of a given cell type. Ewing, therefore, proposed the idea of estimating the relative radio-sensitivity of tumors along lines somewhat similar to Broders attempt to predict prognosis. When the cell of origin is taken into consideration—the most important factor in estimating radio-sensitivity—this conception has now assumed a position of considerable practicality.

The importance of delivering a lethal dosage for a given type of cell if a cure was contemplated began to be recognized. But in 1921, Wood and Prime showed that as far as epidermoid carcinoma is concerned that a lethal dose of irradiation was not delivered until seven to ten erythema doses were given. At that time the amount of irradiation ordinarily given was not that high. Within a few years after methods of interstitial implantation with highly filtered implants were worked out which to skin and mucosal malignant degeneration or when used in conjunction with higher voltage x-ray, in many instances allowed a lethal dosage to be prescribed with a fair degree of accuracy.

#### IRRADIATION THERAPY

There are several limitations to irradiation as a principle. The tolerance of normal tissue may not be sufficient to allow one to use large enough doses to overcome cancer, although fractionated doses may overcome this limitation partially. Another factor which handicaps one is that there has been shown that a dosage which kills most of the cells might not kill all of the cells. For instance, Packard showed that in rat sarcoma a dosage of 1,450 R killed ten per cent of the cells, a dosage of 1,950 R killed fifty per cent but 1 per cent survived 3,500 R. There are certain uncontrollable factors which are unpredictable. Sometimes the cure results when less than a lethal dose is given. Sometimes a fibrosis pens up the cells which ultimately start to grow again. After insufficient irradiation subsequent irradiation may be valueless and the door may be closed to other forms of therapy. Thus, the radiologist can not always predict the result of the therapy

which handicaps him in his preliminary decision. But in spite of the limitations of irradiation therapy this method is being used extensively.

In the application of irradiation therapy, radium which delivers principally gamma rays and x-rays of varying wave lengths is used. One is sometimes used to supplement the other. The principles entailed are similar with possibly here and there some slight variation due to the shorter wave length.

(1) X-ray Therapy—One of the principal recent discoveries that has aided the x-ray therapist was the working out of the percentage of skin recovery from day to day. A short time ago skin recovery was thought to vary five to nine per cent daily, but it is known now that the recovery may be as high as sixty to seventy per cent during the first twenty-four hours. This means from a practical standpoint that when divided doses are given a much higher total amount of x-ray may be given.

The three principal methods of application of dosage are: (1) Large mass dosage given at one time or in one day. (2) The saturation technique of Pfahler, in which each portal is rather quickly brought up to an erythema and subsequently irradiation is added at short intervals over a period of several weeks taking into consideration the percentage of recovery during which each portal is held at a nearly constant erythema level. (3) The fractionated dose of Coutard, in which a third or a fourth of the erythema dose is given through one portal each day for a period of three or four weeks. An intense skin exfoliation is caused. These particular types of treatment have different effects upon the tumor cells, the stroma and the vascular elements. At the present time the relative effect of the various techniques are being energetically studied and although much is unknown a certain amount of data of value has been accumulated.

Pre-operative irradiation is increasing in favor. The best results are shown when the operation follows after sufficient delay has been allowed for tumor regression to become maximal.

A decreased emphasis is being placed upon post operative irradiation. As pointed out by Chamberlain post operative irradiation has always rested upon an unscientific foundation. Radiological cures depend upon the tumor sensitivity and the response of the tumor bed. If the radiologist can take care of a few cells he



can take care of all the tumor in the first place. In most instances, it is probably not possible to take care of the remaining cells with a "shot-gun" dose of x-ray.

One of the most important problems for the x-ray therapist to determine in the future is whether or not the use of higher voltage and thicker filters will increase the number of cures. Some men have said that by increasing the distance of the x-ray tube from the patient and by using a method of cross firing that we have already approached the maximal dose obtainable for the human body. However, most observers believe that this is probably not altogether correct. Some significance probably must be given to the fact that higher voltages tend to ionize atoms in a different manner. The deeper penetration of the neutrons probably adds something to the depth dosage—the essential factor.

(2) Radium Therapy—Some men have stated that the gamma rays of radium are superior to x-rays. This is not proven but it is possible that the gamma ray might have a greater specificity for certain tumor cells.

There are essentially only two methods of applying radium. Surface application by means of a radium bomb or a smaller radium pack and interstitial irradiation, a method which applies small foci of radium direct to a tumor mass. Usually about four grams of radium are necessary for the radium bomb which is used externally. Only a few institutions are wealthy enough to own this much radium. Surface irradiation, by means of a small radium pack, is used for both external and intracavity irradiation such as in the cervix of the uterus, the oesophagus, and the rectum. Often by external irradiation a lethal dosage cannot be given without causing irreparable damage to the intervening normal tissue. With interstitial irradiation a higher dosage can be given to the tumor because the foci (needles or seeds) are placed within the tumor itself. The normal cells are not damaged first. By the use of a previously experimentally established table for calculating the lethal dosage for a given tumor mass, a lethal or near lethal dose for the given type of cell can be prescribed when using interstitial irradiation. When a near lethal dose is given one can supplement the dosage with x-ray so the two together can make up the lethal dosage.

#### CONCEPTION UPON WHICH SURGERY IS BASED

After the rather lengthy resume of certain

conceptions concerning irradiation therapy it may be assumed that surgery has little place in the treatment of cancer. This is not at all the case. Surgery is still in many types of cancer the bulwark against which one rests when a cure is contemplated.

In the beginning cancer is supposed to be a local lesion and presuming that this is the fact, surgery should be effective if the local lesion is removed. To be on the safe side an additional margin of normal tissue also should be removed and when the life history of the tumor indicates that metastasis is likely to occur to the lymph tributary nodes they should be removed as an additional precaution.

It makes no difference what type of instrument is used for the surgery whether a knife, the endothermic knife or cautery as far as the principle is concerned. The object is complete removal of all tissue that might be involved with cancer. Generally speaking whenever complete removal is not possible the situation should be regarded as being beyond help from surgery.

#### CONCLUSION

Finally, in conclusion it may be stated with truth that the outlook of the cancer patient has improved vastly in the past few years. Advances have been made largely due to the combined efforts of the surgeon, the physician, the radiologist and the pathologist working together and concentrating on the subject of cancer as it occurs in the human.

Ewing, may with profit be quoted as to the essential requirements of he who presumes to treat malignant disease:

"The modern clinical diagnosis of neoplastic disease now involves so many tests, procedures, instrumentation, requiring skill in performance and experience in interpretation as to furnish overwhelming evidence that the diagnosis and treatment of cancer is a broad medical specialty, and can no longer be regarded as an avocation of the general practitioner or even of the unattached surgeon or radiologist."

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—JKMS—

The nature of the body can only be understood as a whole.—Hippocrates.

—JKMS—

We all labor against our own cure, for death is the cure of all diseases.—Sir Thomas Browne.

—JKMS—

Treat the man who is sick, and not a Greek name.—Jacobi.

## A REPORT OF 4,511 TUBERCULIN TESTS USING AN INTERMEDIATE DILUTION OF TUBERCULIN PPD

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The difficulty in securing parental consent for the tuberculin testing of children in schools and the added cooperation necessary on the part of all tested when multiple tests are used, together with the necessary increase in record-keeping, have long been prominent factors in curtailing the securing of reliable data on the infection rate among various groups. There is a certain percentage of those who fail to return for the interpretation when only one test is given, and each added test noticeably increases that percentage. The health officer and the private physician know how difficult it sometimes becomes to complete immunizations against typhoid and diphtheria when two or three visits are necessary, especially in the absence of an epidemic. Why this is true, can probably be best explained by the psychologist. It is, however, a recognized obstacle to the smooth running of an otherwise efficient program, especially so in a tuberculin testing program where no immunity is conferred.

Kansas has a low death rate from tuberculosis and might reasonably be expected to have a somewhat correspondingly low infection rate. It might be further reasoned that a large number of those who are infected have received a much milder infection than would result in a community where the death rate was higher.

With the above reasoning in mind, a method of tuberculin testing was worked out using PPD as the material of choice. Second strength PPD contains 250 times the tuberculo-protein of first strength PPD. By diluting the second strength to one-tenth its concentration, we obtain a solution which is twenty-five times the strength of PPD first strength. This intermediate solution furnishes the basis for the testing included in this report. Obviously more menstrum is necessary than that included by the manufacturers of PPD. Additional material is made by the state board of health laboratory, according to the formulae published in the supplement of the American Review of Tuberculosis. This menstrum is sealed in five cc. rubber stoppered vials. One tablet (second strength PPD) dissolved in the contents of one

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vial, gives sufficient material for 100 tests each consisting of .0005 mg PPD in .05 cc. of solution. The smaller quantity of solution, namely .05 cc, rather than the customary .10 cc. was used as it is considered just as accurate and causes a little less pain resulting from the separation of the epidermis, which results in increased ease in operation, especially in young children and apprehensive adults.

How accurate is the intermediate test and what is the degree of reaction? One hundred one children were given multiple tests. The results are tabulated in Table 1.

TABLE 1

## MULTIPLE PPD TEST RESULTS

Number Tested	1st Strength	Intermediate Strength	Second Strength
62	Negative	Negative	Negative
16	"	"	-*
3	"	"	One plus
4	"	One plus	One plus
1	"	Two plus	Three plus
7	"	One plus	-
3	"	Two plus	-
4	"	Three plus	-
1	One plus	One plus	-

101 Total

\*No test with this concentration.

The foregoing data are not conclusive proof that the intermediate test solves the problem of the desirable single test method of tuberculin testing. There were three children who gave a positive reaction to second strength after giving negative reactions to the first and intermediate strength. There were nineteen children who gave positive reactions to the intermediate strength after giving negative reactions to the first strength. Five of these were retreated using second strength, with only one giving a larger reaction with the stronger solution. Likewise one child gave the same type of reaction to both first and intermediate tests. This series is very small, but nevertheless we believe that the use of an intermediate strength of tuberculin PPD, in a community where the death rate from tuberculosis is relatively low, is justifiable. We do not believe it causes an unduly high percentage of large or severe reactions and on the other hand, believe that it does serve its purpose as a reliable and sufficient diagnostic agent for determining tuberculous infection.

During the fifteen months period ending December 31, 1935, 4,511 tuberculin tests have been given in twenty-seven counties of Kansas

as follows:

Allen, Butler, Chautauqua, Cherokee, Coffey, Cowley, Dickinson, Ellsworth, Finney, Franklin, Greenwood, Graham, Lyon, McPherson, Miami, Montgomery, Morris, Osage, Pawnee, Saline, Sedgwick, Seward, Shawnee, Sumner, Washington, Wilson, Wyandotte.

The individuals tested may be divided into two groups: First, those who came to the tuberculosis clinics for examination and represent individuals who for some reason or other presumed that there was a possibility of their having tuberculosis; and, second, those who were tested in school-wide testing projects. While the first group accounts for most of the counties, it accounts for only 27.1 per cent of the total tests.

The counties in which tuberculin testing was done in conjunction with the clinic service rendered, together with the number of tests given at the clinics and the number of positive reactions, are tabulated in Table 2.

TABLE 2  
TESTS GIVEN AT CLINICS

County	No. of Tests Given	No. of Positive Reactions	Per cent of Positive Reactions
Allen	17	3	17.6
Butler	191	66	34.5
Chautauqua	36	11	30.6
Cherokee	13	11	84.6
Coffey	20	9	45.0
Cowley	82	36	43.9
Dickinson	72	16	22.2
Ellsworth	21	8	38.1
Finney	24	18	75.0
Franklin	22	7	31.8
Greenwood	39	12	30.8
Kingman	65	14	21.5
Lyon	144	42	29.2
McPherson	74	37	50.0
Miami	102	23	22.5
Morris	29	12	41.4
Osage	29	26	89.7
Saline	62	14	22.6
Sumner	56	22	39.3
Washington	25	3	12.0
Wilson	101	28	27.7
Totals	1,224	418	34.15

The tests were given to those in all age groups from under one year to 79 years of age. Many of those tested were children who were either contact cases or cases referred to the clinic because of malnutrition or lassitude.

Figure 1 shows clinic tests by sex and age groups and the per cent positive in each age group.

The races represented (but not shown in Figure 1,) may be tabulated as shown in Table 3.

TABLE 3  
CLINIC TESTS BY RACE AND SEX

	Male			Female		
	Total Tests	No. Pos.	Per cent Pos.	Total Tests	No. Pos.	Per cent Pos.
White	494	164	33.2	660	211	32.0
Mexican	12	8	66.7	27	20	74.1
Colored	16	6	37.5	15	9	60.0
Total tests	1,224					
Total Positives	418					
Average per cent positive	34.15					

School-wide testing was done in ten counties as shown in Table 4.

TABLE 4  
TESTS GIVEN AT SCHOOLS

County	Number tests given	Number Positive Reactions	Per cent Positive Reactions
Cowley	165	60	36.4
Greenwood	432	56	12.9
Lyon	516	70	13.6
Montgomery	48	14	29.2
Pawnee	324	20	6.2
Sedgwick	573	131	22.9
Seward	659	57	8.6
Shawnee	132	25	18.9
Sumner	185	83	44.9
Wyandotte	253	91	36.0
Totals	3,287	607	18.46

The above table reveals a wide variation in the percentage of positive reactors found, and a work of explanation seems advisable.

The Cowley county tests represent a group tested by the local health officer, Dr. Theis. These were indigents, many of whom were definite contacts. The tests for Montgomery county were given at the Legionville Preventorium for children six to twelve years of age who were either underweight and feeding problem children, or contacts of parents having tuberculosis. The contacts would be expected to raise the general average of this group.

The highest percentage of positive reactors was obtained in a high school group in Sumner county. There was an active case of tuberculosis in the graduating class of the previous year. This case has since died of the disease. How long the case was active in school is not known, but it is fair to say that the case was, in all probability, active during the whole senior year. It is interesting to note the vari-

ation in the percentage of positive reactors in the various classes. The present senior class (juniors when the active case was in school) gave seventy-two per cent positive reactions; the present junior class (sophomores last year) gave seventy-one per cent positive reactions; the sophomores (freshmen last year) gave fifty per cent positive reactions and the present freshman class, gave eleven per cent positive reactions. This range of reactions from seventy-two per cent to eleven per cent, is significant and we believe that most of the difference may be attributed to the one case of active tuberculosis in last year's senior class.

The Wyandotte county figures represent testing among four groups of individuals in Kansas City, Kansas. Three of these groups were orphan homes, while the other consisted of a Mexican settlement school. The reactions of these individual groups are outlined in Table 5.

TABLE 5  
KANSAS CITY TESTS BY GROUPS

	No. tested	No. Pos. Reactors	Per cent Pos. Reactors
Orphans Home—White	26	3	11.5
Orphans Home—white	60	17	28.3
Orphans Home—colored	27	3	11.1
Mexican school	140	68	48.5

The remaining counties in which testing was done are listed in Table 6 in the order of their density of population and represent no particular problem. They were all average schools in the largest city of the county.

TABLE 6  
REMAINING SCHOOL TESTS BY COUNTIES IN ORDER OF DENSITY OF POPULATION

County	Group tested	No. tested	No. Pos. Reactors	Per cent Pos. Reactors
Sedgwick	High school	573	131	22.9
Shawnee	College (fresh)	132	25	18.9
Lyon	Grade school and teachers	516	70	13.6
Greenwood	High school	432	56	12.9
Pawnee	High school	324	20	6.2
Seward	Grade and high school	659	57	8.6

Figure 2 shows the school tests by sex and age groups and the per cent positive in each age group. Those above school age represent superintendents, principals, teachers, janitors, etc.



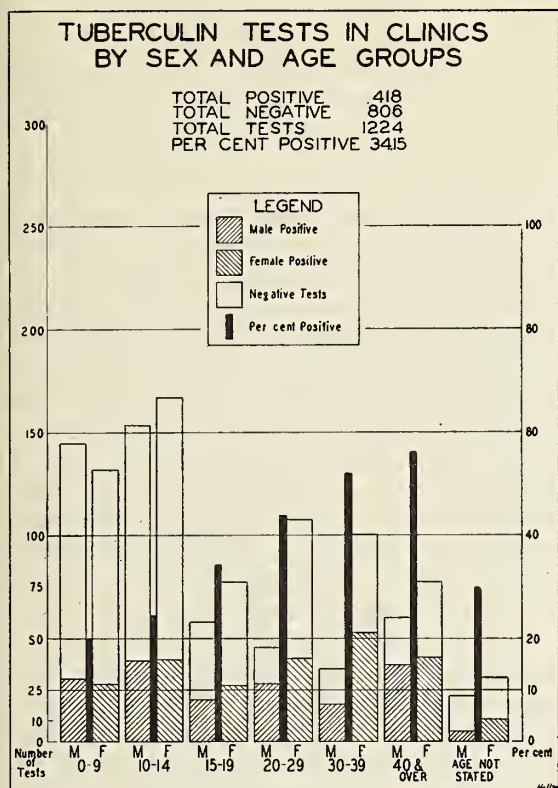


Fig. 1.

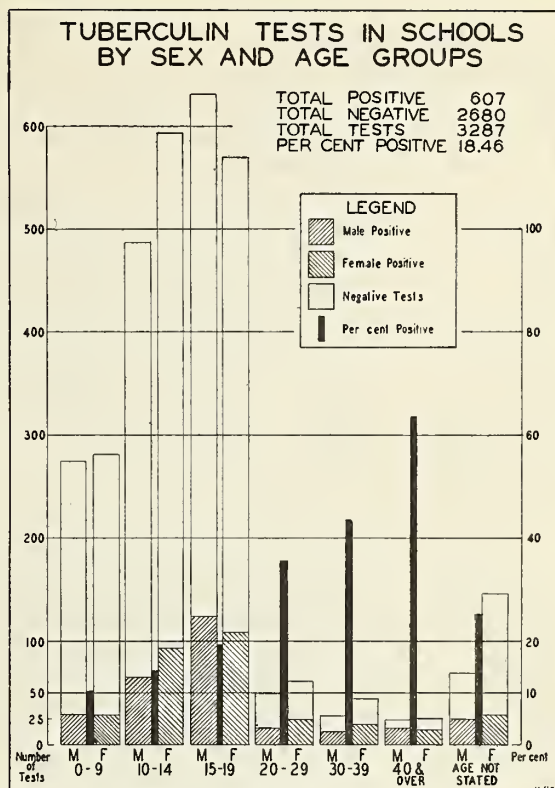


Fig. 2.

The races represented (but not shown in Figure 2,) may be tabulated as shown in Table 7.

TABLE 7  
SCHOOL TESTS BY RACE AND SEX

	Male			Female		
	Total Tests	No. Pos.	Per cent Pos.	Total Tests	No. Pos.	Per cent Pos.
White	1,460	242	16.5	1,597	268	16.7
Mexican	87	41	47.1	77	38	49.4
Colored	30	8	26.6	35	10	28.5
Indian	0	0	0	1	0	0
Total tests	3,287					
Total positive	607					
Average per cent positive	18.46					

TABLE 8

Positive reactions	Number	Per cent
Degree not stated	22	2.15
1 plus (edema 5-9 mm)	475	46.34
2 plus (edema 10-19 mm)	406	39.61
3 plus (edema over 20 mm)	118	11.51
4 plus	4	.39
Totals	1,025	100.00

Nearly one-half of the positive reactions were interpreted as one plus, showing an area of edema from five to nine mm. in their largest diameter. The number of four plus reactions, namely four, is very small compared with results reported in the current literature. It is unfortunate when these four plus reactions occur as they are likely to cause considerable adverse criticism.

While all age groups were tested, a sufficient number of tests were obtained in only three five-year age groups to obtain a fair degree of accuracy in order to show the gradual increase in the percentage of infection with increasing age. Table 9, we believe, gives a fair idea of

The clinic cases as shown in Figure 2 reveal a definite increase in the percentage of positive reactors in all age groups up to forty years of age, over the school tests in Figure 1. The average percentage is nearly twice that of the school group. This fact indicates that a true cross section of the infection rate among the general population is somewhere between the two sets of figures. The per cent of positive reactions as shown in Figure 2 further indicates that a better selection of clinic material might possibly be made by those referring cases to the clinics.

the percentage of infection among the age groups represented:

TABLE 9  
TUBERCULIN TESTS IN THREE FIVE-YEAR  
AGE GROUPS

	5—9	10—14	15—19	Totals
<i>Male</i>				
Positive	48	105	144	297
Negative	326	550	543	1419
Per cent positive	12.8	16.0	21.0	17.3
<i>Female</i>				
Positive	46	133	135	314
Negative	314	620	512	1346
Per cent positive	12.8	17.7	20.9	17.8
Total positives	611			
Total negatives	1765			
Per cent positive	17.5			
Total tests	2376			

This Table shows practically no difference in the infection rate between males and females in any of the three age groups shown. As can be expected, there is a gradual increase in the infection rate as the age increases. This Table also disproves the too often made statement that practically everyone has received an infection by the time they become adults.

In conclusion, we have outlined a single test method of using an intermediate solution of tuberculin PPD. We have shown the positive reactors by age groups in two large divisions, namely, those seen in clinic service and those tested in school-wide surveys. An attempt has been made to explain the differences in the percentage of reactions obtained in various schools including the presence of tuberculosis in the school, the relation of density of population to infection rate and the influence of the foreign element on the incidence of infection. We have shown the gradual increase in the infection rate among three five-year age groups and the negligible difference between the two sexes. We have further shown that the concentration used is not too strong, as evidenced by the small number of four plus reactions, and yet strong enough to be used as an efficient medium for screening out the uninfected and for determining an accurate infection rate.

—JKMS—

An important phase of medicine is the ability to appraise the literature correctly.—Hippocrates.

—JKMS—

The pomp and dignity of the medical art is less seen in neat and elegant formulae than in the cure of disease.—Sydenham.

## ACTION CURRENTS IN SCHIZOPHRENIA

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For the past six months, in the Osawatomie State Hospital, we have been investigating action currents in psychotic patients. We have found a significant differential variation in the action current records of patients having any of the various types of schizophrenia and those having a manic psychosis. This variation can also be detected in a reduced form in the records of normal individuals and can possibly be regarded as an indicator of the different types of personality. We have also found that these action currents could be modified by certain drugs and that with the change in the action current pattern there was a corresponding change in the clinical symptoms.

It is the purpose of this paper to make a preliminary report on the occurrence of these distinctive action currents in schizophrenia, and the method used in obtaining and recording them. We feel that the recognition of this peculiar electrical activity may give some insight into nervous activity in schizophrenia, may be of value in differential diagnosis, and may also be of assistance in pharmacological studies in the functional psychoses.

It would seem that every approach had been made to the problem of schizophrenia; but, so far as we know, there has been little study of electrical changes in this condition with the exception of study in chronaxia and in skin resistance as measured by the psychogalvanometer.

"Nerve impulses are invariably associated with action currents. One is never found without the other."<sup>1</sup> A method for detecting and analyzing nerve impulses would therefore give valuable insight into the study of disturbed function as seen in the psychoses.

One of the first studies made by this method was at Johns Hopkins by Stanley Cobb<sup>2</sup> about 1918 and reported by him in the Archives of Neurology and Psychiatry. He made a study of hysterical and organic tremors and was able to differentiate between the unconscious voluntary tremors of hysteria and the tremors of Parkinson's disease. Meyers<sup>3</sup> has reported a study of nystagmus by this method. One of the most important physiological studies based on action currents, one of the most far-reaching in its implications, was carried out by Travis<sup>4</sup> and his co-workers in the University



of Iowa. His work was directed toward a study of nerve impulses in stuttering and has been reported in a series of articles in the *Archives of Neurology and American Journal of Physiology*. Lindsley<sup>5</sup> reports an interesting study in myasthenia gravis. Golla<sup>6</sup>, Adrian<sup>7</sup>, and his co-workers have made an extensive study of action currents arising in nerve tissue. Most of the work done has been in normal subjects and were matters of physiological research. In Germany, Hans Berger<sup>8</sup> has discovered an action current peculiar to the cerebrum. He discovered this in 1924 and reported it again in 1929, and in several subsequent articles gave further development of his discovery. His findings have been substantiated by Adrian and Matthews of England. Adrian<sup>9</sup> reported the finding of the "Berger Rhythm" to the American Neurological Society at its meeting in Washington last year and has a later report in "Brain."<sup>9</sup>

Last summer Dr. Herbert Shuey, in making some cardiographic records in connection with his personality studies in mental cases, noted a number of records with very rough and irregular base lines. These are often seen in electrocardiograms and have heretofore been interpreted as due to defects in the instrument or to electrical interference. The records were correlated with his other studies of personality and it was found that there was a constant difference between the base line records of individuals in the primary or extroverted group and those in the secondary or introverted group. This observation was the stimulus for a very interesting and intriguing study concerning which this is a very abbreviated, preliminary report.

We are convinced that the cardiogram as recorded by the present-day electrocardiograph represents a great deal more than the record of cardiac activity. Every form of biological activity is accompanied by slight changes of electrical potential. So far, there has been little study of the base line in these records, for cardiographers have been interested only in the P. Q. R. S. and T. waves which represent the changing electric potential due to the action of the heart. The fact that these other variations are of slight intensity, do not occur in all records, and are not connected with cardiac activity has caused them to be regarded, if considered at all, as due to some defect in the instrument or to outside interference. There are scarcely any reproductions of electrocardio-

grams that do not include some of the characteristics fluctuations to which we refer. This irregular base line means something. The heart is not the only portion of the body which produces action currents. The contraction of the heart occurs with regularity and similarity. The action currents produced by its activity as recorded are outstanding and attract the attention of the most casual observer. The cardiologist gets what he wants when he gets a record of the cardiac waves and their time relationship, but it is always profitable to read between the lines. The electrocardiogram is a record of the sum total of action currents occurring in the area from which the currents are led off. Every form of metabolism, in the larger sense, muscular, secretory, chemical, nerve impulses and psychic activity are evidenced by these action currents. The sensitive electrocardiograph detects these, amplifies them through a system of vacuum tubes in the same way that the radio detects and amplifies the waves from a broadcasting station with which it is in tune. The patient when connected with a cardiograph is in reality a broadcasting station—the electrodes being the antennae through which the instrument detects, amplifies and records the changes in electrical potential which accompany the activities of life. We feel that the irregular base line as recorded by the electrocardiograph is a distinctive thing, is a record of certain somatic forces whose activity and inter-relationship make up the personality. The basic difficulty in schizophrenia is the inefficiency of the instrument through which ideas are associated and through which satisfactory affective relations are maintained with the outer world. The constant fluctuation in the base line may be a record of the schizophrenic's ineffectual efforts to secure and maintain homeostasis, which is his outstanding characteristic.

The introverted, self-centered, suspicious individual has a rough, irregular base line. When these personality traits become accentuated as in the development of a psychoneurosis or schizophrenic psychosis we have a corresponding increase in the intensity of the base line variations. The extroverted individual who is in touch with reality, who has insight as to himself, has a smooth, so-called normal base line. When he develops a manic psychosis he still has a smooth even base line—the exact opposite of that which is found in schizophrenia. Figure 1 shows a typical schizo-

phrenic base line. This was taken from a co-operative catatonic, but one who is markedly seclusive and totally lacking in insight. She attitudinizes at times, balances on lines on the floor, and turns square corners.

In a series of over 600 records from eighty-seven psychotic patients we have never failed to get this characteristic base line in a case of schizophrenia. It occurs in all types—simple, hebephrenic, paranoid, or catatonic. It occurs in the stuporous catatonic, in the type showing waxy flexibility, in the resistive and negativistic types. One might interpret the irregularity in a negativistic or resistive patient as due to action currents produced by muscular contraction, but the records from a stuporous catatonic show the same thing. Other patients representing other types of behavior from apathy, indifference, cooperativeness, various degrees of complacency and self-satisfaction to the exalted egotism of the paranoid, all showed the same type of base line, the catatonics and paranoids showing perhaps a greater range of variation.

We have used a group of eighty different patients who were schizophrenics. On some we have made as many as fifteen records taken at various times of the day and in different surroundings but with the same evidence of action current variation. The action currents recorded or shown in a cardiogram of a manic are smooth, resembling the ordinary record of a normal individual. We were handicapped in this study by having very few manics. We made records from five, two in manic phase and three in depression. All but one gave smooth base lines. This one

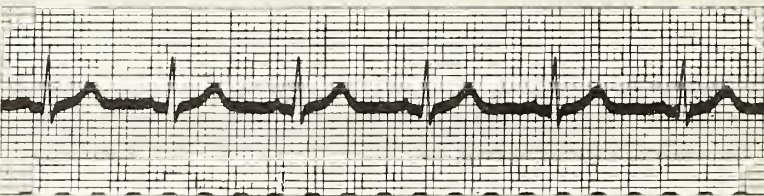


Figure 2. Base line generally found in manic psychoses.

text book picture of a maniac and was given this provisional classification. When first presented before the staff she had psychomotor activity, flight of ideas, a clear sensorium and apparent insight, but showed a typical schizophrenic base line. When tested by the Rorschach

test she showed a marked degree of introspection. Three months later when before the staff for parole consideration, she showed no evidence of insight as to her condition. She was vindictive, said she had been framed and

poisoned, and expressed other persecutory ideas. The staff opinions, written at this time and based on symptoms present then, favored a catatonicy classification.

We found the irregular base line in two psychoneurotic patients and in five employees who showed neurotic tendencies.

#### METHOD

The method employed was as follows: The instrument used was the Victor Electrocardiograph manufactured by the General Electric X-Ray Corporation. The electrodes were the ordinary 1x3 inch plate zinc electrodes provided with the machine. In order to insure a good electrical connection with the skin, we coated the electrodes with a paste made from K. Y. Jelly to which had been added KOH equal to one per cent weight of jelly and NaCl to twenty per cent. Electrodes were bandaged firmly to each part thus insuring uniformity of contact with all patients.

All records were taken with patients in supine position and in a quiet room. The instrument was protected from extraneous currents by operating it in a building remote from any electrical machinery and with the added precaution of cutting off the lighting circuit from the entire building. Records were taken many times from the same patients and

taken at different hours of the day. In addition to the customary leads used in electrocardiography, we also applied the

leads distal to the heart so as to eliminate it from the picture. Records taken with the electrode placed on each leg, bitemporally, or from glabella and occiput showed the same irregularity noted in the records taken from the customary leads.



The records taken with the electrodes on occiput and glabella were smoothed out by voluntary mental application and the records from legs were similarly affected by the induction of light spinal anesthesia.

In all we have taken some 600 records which seem to support our original observation. In analyzing the records we disregarded all waves making up the gross action of the heart, and only the fine fluctuations that made up the base line to the cardiographic record were considered.

We feel that the schizophrenic patient shows a distinctive action current pattern regardless of type or condition of muscular rigidity. It appears in the active, rigid catatonic and in the one showing waxy flexibility, in the simple type showing apathy and indifference, and in the alert, hyper-vigilant paranoid. We have never observed this pattern in the pure manic.

We next decided to test the effect of drugs to determine whether there might be any relation between improvement in clinical symptoms and variations in the action current pattern. Naturally the first drug tested was sodium amytal. We took a record from a mute, negativistic catatonic patient and immediately without changing electrodes began an intravenous injection of sodium amytal at the rate of  $1\frac{1}{2}$  grains per minute. A record taken three minutes after beginning this injection showed a definite improvement in the base line. This improvement increased with the patient's changed relationship with reality. We tested this repeatedly. As soon as a patient's emotional attitude was changed, as soon as he gained insight as to his condition the base line became smooth. This is shown in Figures 3 and 4.

The next drug tested for its effect on the action current pattern was calcium chloride. We felt that the action currents might be modified

by a change in the character of the electrolytes in the body fluids. This drug also produced a smoothing of the base line.

Other drugs tested by examination of action current changes were ephedrine, adrenalin, caffeine, bulbo-capnin, acetyl-beta-methylcholine, histamine, alcohol, and ether. We expect to study them at greater length. At the present time we are paying especial attention

to the effects of calcium as it seems to produce definite improvement in the subjective and objective symptoms of schizophrenia.

Patients having hallucinations admit that these are minimized or completely removed. Those showing impulsiveness or hair trigger behavior are improved because reflex activity is slowed and time is given for reason and judgment to inhibit untoward behavior. Although the use of calcium was suggested by the electrocardiograph, the use of it is a separate study and will be reported at some future time.

We also studied in a few patients the action current changes produced by the intravenous injection of typhoid vaccine, with the attendant increase of metabolism incident to hyperpyrexia. The pattern changes brought about by various endocrines, by temperature changes, and by infection are also to be investigated.

We hope when the study is complete to be able to show that there is a distinctive pattern of action currents in the different types of personality, that these patterns are modified by the personality change incident to the psychoses, and that clinical changes brought about by various drugs having direct action on the central or vegetative nervous system are reflected in the action currents.

Our preliminary study made with the electrocardiograph leads us to believe that there are marked electrical potential variations in schizoids and schizophrenics which are not ob-

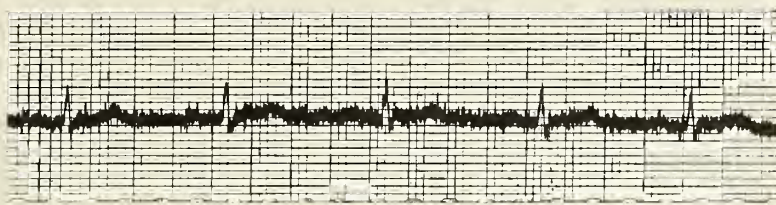


Figure 3. Base line of a typical catatonic.

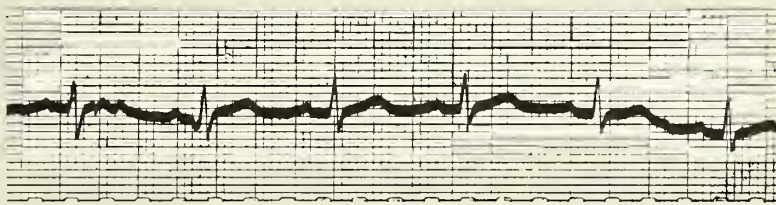


Figure 4. Same patient five minutes after beginning an intravenous injection of sodium amytal at the rate of  $1\frac{1}{2}$  grains per minute. No change in electrodes.

## PRESIDENT'S PAGE

To the Members of The Kansas Medical Society:

Your attendance at the American Medical Association meeting by actual count was 1001. Our total membership at that date was 1440. Of that number perhaps 200 were unable to attend because of the infirmities of age, leaving but 239 who were detained at home to carry on. We believe investigation may prove this an all time record. We interpret this as an index of the intelligence, the scientific interest and the desire to actively participate in the benefits of the county and state societies and the American Medical Association.

The various scientific programs were of unusual interest, and of extraordinary merit. The open meeting with the distinguished guests present and an attendance of more than 12,000 was an inspiring thing. Short addresses of welcome were given by the mayor of Kansas City, the representatives of the Jackson County and Wyandotte County Medical Societies, the presidents of the Missouri and Kansas state societies, Governor Park of Missouri and Governor Landon of Kansas. The address of the Governor of Kansas deserves special mention. No member of the American Medical Association could have better outlined the desires of the profession than he did in his excellent address. We consider it a reflection of the sentiment of the profession of our state and of the American Medical Association, and it was most enthusiastically received. The installation in absentia of Dr. Tate Mason as president of the American Medical Association established a precedent. His address, which was presented by Dr. Kenneth M. Lynch of South Carolina, retiring vice-president, outlined the plans he had made for the coming year of his presidency, and was thoughtfully received. The absence of Dr. Mason left a tinge of sadness that was not erasable.

To attend a meeting of the American Medical Association House of Delegates is an experience long to be remembered. No one can perceive without such attendance the vast amount of important business that is transacted, and the efficiency with which it is conducted.

The scientific exhibits in kind, number and quality held the interest of everyone. The commercial exhibits were equally complete, and reflected every advancement of the year. One could have spent thirty days with great profit studying what was offered.

The newspapers of the two Kansas Cities and the press in general were generous with their space, and their reports of the meeting were particularly able from the standpoint of presentation of medical information. The delightful hospitality of the people and of the various civic groups also demands special mention. The fine auditorium offered facilities that are unexcelled.

The medical profession of Jackson and Wyandotte Counties were hosts extraordinary. The smooth working organization that was prepared for every emergency, functioned in detail to the fullest extent and was only possible through a year's work and preparation by that able group of men.

We are glad that our state was permitted to be co-host with Missouri for this great meeting, and we wish to express the hope that we may again have that privilege in the near future.

H. L. SYNDER, M.D.



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## EDITORIAL

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### THE PRESIDENT-ELECT

The House of Delegates of The Kansas Medical Society, in regular session at Kansas City, Kansas, on May 11, elected Dr. Jacob Franklin Gsell of Wichita as President-Elect of the Society for the year 1936-1937, and as President for the year 1937-1938.

The Journal wishes to congratulate the House of Delegates upon its choice. Dr. Gsell has maintained an active interest in the affairs of the Society for many years. His proven executive ability and his acquaintance with the organization and its purposes thoroughly qualify him for the duties of his new office.

By reason of the change in the Constitution and By-Laws adopted at the last meeting of the House of Delegates, Dr. Gsell will be the first President-Elect to serve for an entire year and the first President whose term will coincide with the fiscal year of the Society.

### GOVERNOR LANDON'S ADDRESS OF WELCOME

The address of Governor Alf. M. Landon, delivered before the opening session of the American Medical Association at Kansas City, met with appreciative applause from the large audience assembled.

We quote in part from Governor Landon's address:

"Medicine will not willingly be made the servile instrument of politicians or the instrument of domineering bureaucracy. I predict that the typical American physician and organized medicine as a whole will at no time be ready for any scheme of regimentation, for any system of impersonalized medicine which is totally alien to the best traditions of the

American practitioner and of the profession as a whole.

"The American practitioner will not be a party to destruction of that individual, personal service which has been the occasion of a special and justifiable pride. Whatever further advances are made in the broadening of medical service—there will be an abundance of them—will be made, in accordance with the fundamental conditions of previous achievements.

"A nation that can maintain and even elevate its medical standards and the state of public health in the trying years of a prolonged depression, needs to make no apology for the quality and the reach of its medical facilities.

"That condition itself is a tribute to the American physician in his continued unselfish devotion to a worthy task. May you long abide in your loyalty to the ideal of individual, personal ministration.

"From the earliest days the general practitioner in America was, first of all, an individualist. The circumstances of his work made him that; but it was a fortunate situation for the people who needed medical care. It meant that they could have personal ministration, that there was an intimate relationship between physician and patient and that the sufferer became at once, and remained, the object of very special attention.

"Down to the present day American medicine has continued to be primarily individualistic. It is chiefly on that basis that it is to be distinguished from medicine in many foreign countries. I know very well the arguments for an extension of the best medical service to all groups of the American people. It is a worthy cause. It is enlisting the attention of the best brains of your profession. I have confidence that you will work it out."

Governor Landon has expressed in general terms the attitude of the majority of American doctors in their desire to preserve individualism in a period of social change.

## DR. H. L. SNYDER'S ADDRESS OF WELCOME

The Kansas profession was particularly proud of the address of welcome given by its representative Dr. H. L. Snyder at the recent American Medical Association meeting. His talk which is reproduced below was filled with conviction that medicine is entitled to safeguard the public and the profession in the government of medical affairs:

"The Kansas Medical Society enjoys the opportunity to be co-host with Missouri for your entertainment in Kansas City. Recent years have brought their problems to the profession of our state as they have to every other portion of these United States. The very difficulties of the time have stimulated not only personal interest but a militant collective individualism in our Society to meet both the emergency and the future. The problems of legislation, the problems of medical economics, the various questions relative to Social Security have each been studied by well selected, interested committees who have displayed typical Kansas spirit, thoughtfulness, and originality in their approach. We have found the services of our full time secretary invaluable. Counsel from the executive offices of the A. M. A. has been very helpful.

We have been mindful of the fact that there has been a great group of people who have been handicapped. We have endeavored to meet their problems half way and to care for their ill in the same spirit that made the family doctor revered. In the belief that county and state organizations must solve their own problems, careful study has been given to the provision of medical care for different wage groups. Plans for the care of the indigent and semi-indigent, maintaining personal choice of physician, have been successfully carried out in several communities. We have learned that no one plan will fit every community. It must be one individual plan carefully worked out by the medical profession with the political authorities to a correct harmonious solution,

ever mindful of the limitations of the tax budget.

It has been and is the policy of Kansas to require that those having the right to practice medicine shall be ethical, competent, and trustworthy. We have purged the State of some objectionable individuals.

We maintain a faith in the rights of the individual in life and of the state in politics. During three generations, Kansas has fought for individual freedom and warred against regimentation and the paternal interference of national politics. And, we propose to continue our independence in solving problems of profession and of state. I can confidently assure you (the profession of all America) that, if the battles for regimentation approach our borders, they will meet a resistance that is bred in the bone and fibre of a free, American people in a free state.

We are alive with anticipation for the wonderful scientific program which will be given at this meeting. We desire that the Association, as a whole, and that each individual member, shall so enjoy this meeting that you will wish to come again. We welcome you."

Dr. Snyder's message was enthusiastically received. In fact numerous interruptions of applause made it difficult for him to present the talk in its entirety.

## BRINKLEY LITIGATION COMPLETED

Word was received on May 28 that John R. Brinkley's period of appeal from the recent decision against him in the United States Circuit Court of Appeals had elapsed and that, therefore, he has no further course of procedure open to him in his litigation to secure reissuance of his Kansas license to practice medicine. It was thought that Brinkley would probably appeal the case to the United States Supreme Court but apparently the many reverses he has experienced caused him to decide that further efforts are futile.



The above circumstance, therefore, marks the close of a series of lengthy court decisions beginning with hearings by the Shawnee County District Court, the Kansas Supreme Court and the Board of Medical Registration and Examination hearings in 1930 and continuing through the United States District Court and the United States Circuit Court of Appeals. As a matter of review, it is interesting to note that Brinkley did not win a single decision and that he received little or no encouragement in any of his practices.

The Kansas Board of Medical Registration and Examination, and Dr. J. F. Hassig, Dr. L. F. Barney, and Dr. C. H. Ewing, in particular, deserve a large amount of credit for their successful handling of this case. Although inconveniences and difficulties incidental to that end have been many, they should take pleasure in the fact that they have materially aided the medical profession in safe-guarding the interest of the public in the ethical practice of medicine and surgery.

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## LABORATORY

Edited by J. L. Lattimore, M.D.

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The following notes are from papers delivered before the American Society of Clinical Pathologists at their Kansas City meeting on May 8, 9, 1936.

R. D'Aunoy, M.D., New Orleans, Louisiana: Lymphogranuloma Inguinale is the third most common venereal disease in the state of Louisiana. The disease is characterized by a suppurating inguinal gland. The greater number of cases heal within a few weeks. Some progress to extensive suppuration and necrosis. Many cases of rectal stricture are a result of this disease. The diagnosis is made by the intra-dermal injection of a small amount of Frei antigen. If positive, a red hyperemic area will develop within forty-eight hours, ranging in size from ten to forty mm. in diameter. Frei antigen is made by injecting material from a known positive case, intra-cerebrally in mouse, monkey, ferret, killing the animal in

about a week, then making an emulsion of the brain. Surgery is the best known treatment of the disease. Frei antigen is accurate in 91.7 per cent of cases.

W. D. Stovall, M.D., Madison, Wisconsin: The two usual methods of identifying B. Welchii are improved. The two usual methods are, injecting material from lesion into a rabbit, kill the animal in four hours and place the body in an incubator overnight, then examine the liver for typical lesions. Plant some of the suspected material into milk, vaseline the surface and place in incubator and watch for typical gas formation. Recommendation is made to add .7 grams of fresh tissue to the milk media, also three to five mgm. of reduced iron. Contaminators are held down and more rapid gas formation is stimulated.

Kano Ikeda, M.D., St. Paul, Minnesota: Report of two cases of primary bronchiogenic moniliasis. Finding the monilia are very common in pathological lesions of the lung and it has been considered that monilia are not primary factors. Ample proof in these two cases sustained the diagnosis.

O. A. Brines, M.D., Detroit, Michigan: Presented seventy-three cases of bronchogenic carcinoma, found in 3000 consecutive autopsies. Such conditions have been considered very rare in the past.

Clyde Brooks, M.D., New Orleans, Louisiana: Presentation of a technic using a micro-sedimentation tube. Very important factors influencing the sedimentation rate are, temperature, delay in performing test and angle of tube. Cold temperature delays sedimentation rate, heat (incubator) increases the rate. Test should be done within a few minutes after collection of blood as delay gives various findings. The tube should be placed in an absolute vertical position, very slight angling of the tube gives erroneous results.

K. Yardumian, M.D., Pittsburgh, Pennsylvania: Fibrinogen and lipids increase with increased sedimentation rates. Chlorides have no effect on the rate. Red count has no effect on the rate.

T. B. Magath, M.D., Rochester, Minnesota: Checking numerous technicians, physicians and senior medical students, the most accurate possible check on the total red count is 370,000. Factors of error that enter are the eye, collecting specimen, the pipette and the counting chamber. Ear blood is one-half million higher in red cells than venous blood. Oxalated blood,

causing shrinkage is not satisfactory for red counting.

Peter Vogel, M.D., New York City, New York: Reporting on 250 cases of sternal puncture. In some cases, definite diagnostic information is obtained in certain blood diseases, such as primary anemia and leukemia. Puncture is made directly into the sternal marrow at about the level of the third to fourth costal margin, using a rather large spinal needle. If more than 2/10th. cc. of marrow are removed, blood contamination results which has a tendency to mask the actual marrow picture.

G. Stillman, M.D., New York City, New York: A detailed study of preparation of intravenous glucose solution. Single distilled water is entirely satisfactory if the still is of proper construction and clean. Immediate sterilization is imperative. In the administration of concentrated glucose solution very slow injection is urged. Most reactions to intravenous medication is due to two factors, improper cleansing of rubber tubing and too rapid administration.

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## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

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### THE SOCIAL SECURITY ACT: RELATION TO PUBLIC HEALTH AND CHILD AND MATERNAL HEALTH\*

EARLE G. BROWN, M.D.‡  
Topeka, Kansas

Enactment of the Social Security Act by the federal government has made possible the extension and strengthening of state and local health services. The Social Security Act is based upon the recommendation of the Committee on Economic Security appointed to study social and economic conditions. While the Social Security Act became a law in August 1935, appropriations for public health have only been made available since March 1, 1936.

The general title of the Social Security Act which received presidential approval on August 14, 1935, defines the purpose of the legislation as follows:

"To provide for the general welfare by establishing a system of federal old-age benefits, and by enabling the several states to make more adequate provision for aged persons, blind persons, dependent and crippled children, maternal and child welfare, public health, and the administration of their unemployment compensation laws; to establish a Social Security Board; to raise revenue; and for other purposes."

The Social Security Act provides federal old-age benefits and grants to the states for old-age assistance; unemployment compensation administration; aid to dependent children; aid to the blind; maternal and child welfare and for public health work. The Act provides grants to states for aid in maternal and child welfare and in the development and maintenance of state and local health services, with an additional annual appropriation to the United States Public Health Service for research activities.

In Title V, Grants to states for Maternal and Child Welfare, provision is made for assistance in the maintenance of maternal and child health service; services for crippled children; child welfare services and for vocational rehabilitation.

In order to administer the grants relating to all services other than public health and child and maternal health services the act provided for a Social Security Board, composed of three members. The Children's Bureau has the responsibility of the administration of grants for maternal and child health service; services for crippled children and child welfare service. The Office of Education of the Department of the Interior will administer those funds relating to Vocational Rehabilitation and the Public Health Service has the responsibility of administering grants to states for aid in establishing and maintaining state and local health services.

It is to be presumed that each of the various titles in the Social Security Act has some relation to health. However, our purpose in presenting this discussion is to give consideration to those provisions which deal with public health and maternal and child health services.

Authority for public health work is contained in the following:

"Section 601. For the purpose of assisting states, counties, health districts, and other political subdivisions of the

\*Read before the Twenty-Fifth Annual School for Health Officers and Public Health Nurses, at Topeka, April 6-7, 1936.

‡Secretary, State Board of Health.



states in establishing and maintaining adequate public-health services, including the training of personnel for state and local health work, there is hereby authorized to be appropriated for each fiscal year, beginning with the fiscal year ending June 30, 1936, the sum of \$8,000,000 to be used as hereinafter provided."

Section 602 provides allotments to the states for improvement of state and local health work shall be made by the Surgeon General of the United States Public Health Service. The amount of such allotments shall be determined on the basis of: (1) Population; (2) special health problems; and (3) financial needs. Further provision is made that the apportionment of such funds will be within the jurisdiction of the Surgeon General who shall certify the designated amount to the Secretary of the Treasury. The Act specifically states that the funds allotted shall be paid to the states and that the Public Health Service will deal only with State health authorities.

Grants to states for maternal and child health services are provided in Sections 501 and 502 (a) and (b) as follows:

"Section 501. For the purpose of enabling each state to extend and improve, as far as practicable under the conditions in such state, services for promoting the health of mothers and children, especially in rural areas and in areas suffering from severe economic distress, there is hereby authorized to be appropriated for each fiscal year, beginning with the fiscal year ending June 30, 1936, the sum of \$3,800,000. The sums made available under this section shall be used for making payments to States which have submitted, and had approved by the Chief of the Children's Bureau, state plans for such services."

"Sec. 502. (a) Out of the sums appropriated pursuant to section 501 for each fiscal year the Secretary of Labor shall allot to each state \$20,000, and such part of \$1,800,000 as he finds that the number of live births in such states bore to the total number of live births in the United States, in the latest calendar year for which the Bureau of the Census has available statistics.

"Sec. 502. (b) Out of the sums appropriated pursuant to section 501 for each fiscal year the Secretary of Labor

shall allot to the states \$980,000 (in addition to the allotments made under subsection (a)), according to the financial need of each state for assistance in carrying out its state plan, as determined by him after taking into consideration the number of live births in such state."

The Chief of the Children's Bureau shall approve any state plan which complies with the requirements as contained in Section 503 (a):

"Sec. 503. (a) A state plan for maternal and child-health services must (1) provide for financial participation by the state; (2) provide for the administration of the plan by the state health agency or the supervision of the administration of the plan by the state health agency; (3) provide such methods of administration (other than those relating to selection, tenure of office, and compensation of personnel) as are necessary for the efficient operation of the plan; (4) provide that the state health agency will make such reports, in such form and containing such information, as the Secretary of Labor may from time to time require, and comply with such provisions as he may from time to time find necessary to assure the correctness and verification of such reports; (5) provide for the extension and improvement of local maternal and child-health services administered by local child-health units; (6) provide for cooperation with medical, nursing, and welfare groups and organizations; and (7) provide for the development of demonstration services in needy areas and among groups in special need."

Each year the Surgeon General of the United States Public Health Service holds a conference with state and territorial health officers. The 1935 meeting was held in Washington, D.C., on June 17 and 18, and the Surgeon General presented for the consideration of the conference a suggested program which would serve as a basis for regulations to be adopted covering the allotments and payments to the states. The conference made minor changes in the suggested program and recommended to the Surgeon General that the program as amended be adopted. Members of this conference also met with officials of the Children's Bureau on June 19, 1935, and made certain recommendations to the Chief of the Children's Bureau regarding the program for maternal and child

health services. The conference adopted the following recommendations, in part, concerning the allocation and payment of funds to the states by the United States Public Health Service.

"The protection and promotion of the public health has long been recognized as a responsibility of government. In the United States, however, this responsibility has not generally been discharged in a systematic and adequate manner as have other functions of government such as the protection of property, the provision of means of communication, or the administration of justice, and education. Furthermore, there is a marked inequality in the health service now being rendered to different communities, which results in great differences of opportunity for citizens to acquire and maintain health. This condition has been brought about by:

"(1) Lack of adequate state and local services for organized health protection,

"(2) Lack of appreciation and understanding on the part of citizens of the measures necessary to preserve and promote individual health, and

"(3) Lack of ability of citizens and communities unaided to secure needed preventive services.

"It is the aim of the Economic Security Act, among other purposes, to stimulate a comprehensive, nation-wide program of public health, financially and technically aided by the Federal government, but supported, so far as possible, and administered, by states and local communities."

#### PURPOSE OF ALLOTMENTS TO STATES

"The \$8,000,000 annually appropriated for aid to states will be available for the following purposes:

"(1) Aid to states and territorial health departments for strengthening the service divisions and in providing adequate facilities especially for the promotion and administrative guidance of full-time city, county and district health service,

"(2) Aid through state and territorial health departments for the development of city, county and district health departments,

"(3) Training of public health personnel.

"However, no state or territory shall be eligible for aid unless and until it shall have provided or provides in its proposed plan for certain essentials of health organization hereinafter set forth.

"Grants in aid to existing state or local projects will be supplemental to funds now being expended, and in no case may such grants be used to replace existing state or local appropriations to such projects for the purpose of relieving state or local authorities from expenditures now being made.

#### "I. AID TO STATE AND TERRITORIAL HEALTH DEPARTMENTS

1. Although it is recognized that many states and territorial health departments conduct a number of important specialized activities, for the purpose of allocation of funds under this Act, no state or territorial health department shall be regarded as properly organized which does not provide as a minimum on a full-time basis the services listed below:

a. A qualified full-time state or territorial health officer.

b. Adequate provision for the administrative guidance of local health services.

c. An acceptable vital statistics service. This shall include an approved plan for the registration of births and deaths and the prompt forwarding of information relative thereto to the Public Health Service.

d. An acceptable state public health laboratory service.

e. Adequate services for study, promotion and supervision of maternal and child health.

f. Special services for the study, promotion and guidance of local activities for the control of preventable diseases and for health promotion. This shall include an approved plan for the collection of reports of notifiable diseases and the prompt forwarding of information relative thereto to the Public Health Service.

g. Services for study, promotion and supervision of environmental sanitation.

"Provided: That exceptions to this requirement may be made where it shall be determined by the Surgeon General that one or more of these services are



uneconomical or unprofitable in a given state."

Recommendations were made regarding the allotment of funds toward the establishment and maintenance of city, county or district health services, with the basic principles of organization and services as follows:

"1. The public health services of the city, county or district shall be under the direction of a whole-time health officer.

"2. The personnel of the city, county or district health department should include, in addition to the full-time health officer, such medical assistants, public health nurses, sanitation officers and clerks as will insure at least a minimum of effective health service commensurate with the population and health problems of the area concerned."

The success of the Social Security Act in the field of public health and maternal and child health will depend upon the availability and employment of competent and trained personnel. Therefore, the conference adopted certain standards for medical officers, public health engineers, nurses, sanitarians and sanitary officers. Requirement was made that candidates for appointments shall not be more than thirty-five years of age when specializing in public health work, and that personnel already selected shall have had or shall agree to take before assuming their duties not less than three months of special training in public health. The standard of qualifications for medical and nursing personnel were harmonious with the standards and educational requirements made by the Committee on Professional Education of the American and Medical Association of the National Organization for Public Health Nursing. At the conference with the Children's Bureau, plans were approved for the development of maternal and child health programs in the furtherance of a general program of maternal and child health. It was decided that special consideration should be given to:

"(a) to local services for children and mothers, services to be administered by local public-health units with the use of combined local, state, and federal funds; (b) to conditions in rural and other specially needy areas; (c) to the development of demonstration services or services of a more nearly permanent character

in localities in special need, and (d) to the development of adequate divisions of maternal and child health in state departments of health that can provide the leadership and administrative assistance necessary to develop local services. Furthermore, in such a program, though the lives and health of mothers, infants, and young children may be considered as a major responsibility attention must also be focused on the physical and mental health needs of children of all ages, especially on those problems that have to do with mental health and its relation to delinquency, with the health of adolescents in school or of youths who are seeking employment or are already in industry, with the health needs of special groups of children, such as children who are physically or mentally handicapped, children in institutions or foster homes, children in families in which the father is dead or absent from home because of illness or desertion, children in families on relief rolls."

The conference considered in planning a local program for mothers and children that special consideration should be given to rural areas and small centers of population. Provision was made for cooperation with medical and other professional organizations and with social welfare, educational and home economic groups. The same minimum educational requirements for professional workers were adopted as for those engaged in general public health work.

For the respective states receiving aid in both public health and child and maternal health services requirements were made that the state health officer should submit detailed plans of the organization of the department outlining the program for the state and submit proposed budgets to the Public Health Service and the Children's Bureau.

The Kansas State Board of Health desiring to cooperate with various organizations interested in health, at its annual meeting on June 28, 1935, created an Advisory Committee, the members being appointed by the presidents of the respective organizations, as follows:

F. L. Loveland, M.D., Topeka, Barret A. Nelson, M.D., Manhattan, Kansas Medical Society.

David T. Parkinson, D.D.S., Wichita, Kansas State Dental Association.

Ann Washburn Wick, R.N., Wichita, Kansas State Nurses Association.

Paul C. Carson, M.D., Wichita, American Academy of Pediatrics.

George I. Thatcher, M.D., Waterville, Kansas State Board of Health.

Two additional members have been added to the original committee, including: John G. Stutz, Director of the Kansas Emergency Relief Administration and L. A. Calkins, M.D., Professor of Obstetrics of the University of Kansas School of Medicine and member of the Executive Committee of the American Maternal Welfare Association.

Limited time permits only a brief discussion of the Kansas plan for the administration of public health and maternal and child health services under the Social Security Act. The program for maternal and child health was submitted to the Children's Bureau on December 30, 1935, and Miss Katharine Lenroot, Chief, advised of her approval under date of February 17, 1936. The program for public health was submitted to the Public Health Service under date of January 27, 1936 and was approved by the Surgeon General on March 7.

Primarily we believe the interest of this group will be in: (1) Provision for the training of personnel; (2) extension of public health services, and (3) provision for maternal and child health work.

#### TRAINING OF PERSONNEL

In the past in many of the states there has been unrest in local and state health departments due to the policy of making frequent changes among the personnel. It is recognized, of course, that interference with plan and frequent changing of personnel prevents the greatest amount of work being accomplished. We believe that all will agree public health work is a definite profession and that a career in this profession should be as attractive and permanent as in any other profession or field.

In order to provide a trained public health personnel a total of fifteen per cent of the \$8,000,000 appropriated was set aside for the training of personnel. The conference recommended the United States Public Health Service should develop adequate training centers in existing institutions and conveniently located to serve certain groups of states. It was further suggested that the funds allotted to the various state departments of health should be in ac-

cordance with their needs as certified by the state health officer for the purpose of paying living stipends, tuition and travel expenses of trainees. The selection of the public health trainees is made by the state department of health and those who have completed the special training courses will have priority in their selections for state and local positions.

To date, two medical schools have been designated to give short courses in public health work for medical trainees, namely: Vanderbilt University School of Medicine at Nashville, Tennessee, and the University of Michigan at Ann Arbor. Five universities and colleges have been accepted by the Public Health Service as having satisfactory requirements for public health service training for white nurses, as follows: University of Minnesota at Minneapolis; University of Michigan at Ann Arbor; Western Reserve University at Cleveland; Peabody College at Nashville, Tennessee; and Teachers College, Columbia University at New York City. In addition, St. Philip School of Nursing of the Medical College of Virginia at Richmond, has been designated as a training center for colored nurses.

We have not as yet received any information regarding short courses for sanitary engineers; sanitarians or sanitary officers. We are informed that the Public Health Service will provide a short course in industrial hygiene to be given at Washington, D.C., beginning May 18.

A total of \$4,775 was allotted to Kansas for the five-month period February-June, 1936, for the training of public health personnel.

These funds are being utilized for the training of three public health nurses at the University of Minnesota, and one colored nurse at St. Philip School of Nursing. Two physicians began their post-graduate courses at Vanderbilt University and one at the University of Michigan, on April 6. Provision has been made for the enrollment of two sanitary engineers in a post-graduate course for nine months in one of the eastern universities beginning next September. One of these engineers has been named as the Industrial Hygiene Engineer in the Division of Sanitation of the State Board of Health.

#### MATERNAL AND CHILD HEALTH SERVICES

The plan for the extension of maternal and child health service includes provision for ad-



ditional personnel to the state health department including an assistant to the director of the division; a full-time dentist who will be director of the division of dental hygiene which was created by a resolution adopted at the quarterly meeting of the State Board of Health, held on March 25, 1936; two consulting nurses; an educational director; and a nutritionist.

Among the services contemplated under the program are provisions for district meeting of health officers and public health nurses; refresher courses in pediatrics and maternal hygiene, the continuation of the policy of previous years in providing speakers for teachers institutes and also addresses by members of the staff to school children, Parent Teachers' Associations and other organizations.

The educational service provided on maternity and child-bearing will be increased to provide additional literature dealing with this subject. Prenatal clinic service will be provided for certain cities and villages and for rural communities. Such service, however, will only be established in cooperation with the local county health officer and the local county or district medical society. The service will be limited to those mothers who cannot employ a private physician. One county will be selected for a special demonstration in an attempt to lower existing high infant and maternal mortality rates. Two nurses will be provided in this county to work under the direction of a committee appointed by the local medical society and the nurses will be available for assistance to the physicians during delivery as well as for prenatal and postnatal calls.

Literature relating to the infant, pre-school and school child will be available in addition to certain limited publications available at the present time. It will also be possible to develop a limited number of well baby, pre-school and school conferences in cooperation with the local health officers and the local or district medical society. Immunization against diphtheria and vaccination against smallpox will be made possible in these communities through payment of a fee to physicians for this service.

#### PUBLIC HEALTH WORK

On basis of the allocation to the various states for public health work during the present fiscal year, Kansas was entitled to \$105,398. Of this amount, \$35,115 was to be matched with new money but since new funds were not appropriated these funds could not be matched.

Deducting this amount, Kansas was entitled to receive the proportionate share of \$65,023, but since the money was not available until the first month of the second quarter, the allotment to Kansas was \$27,092. This total of funds did not include \$4,775 allotted for the training of public health personnel.

A total of \$1,600,000 was allotted to the various states on the basis of financial needs. Of this total, \$400,000 was made available as a flat allotment, each state receiving its proportionate share of \$7,843.00. In Kansas this fund is being used for further extension of local health service in the employment of a director.

The Kansas plan includes provision for strengthening the Division of Sanitation through the addition of an industrial hygiene engineer, provision for this travel and the purchase of certain equipment.

The work of the public health laboratory will be extended thru the establishment of two district laboratories where all tests relating to public health will be made with the exception of Wassermann and Kahn tests which will still be run in the central laboratory. The first district laboratory will be established in southeast Kansas and serve those physicians in that section of the state.

Mr. Raymond Leach, a graduate of the University of Kansas, and one of the technicians in the central laboratory for the past six years will be in charge. The necessary equipment has been purchased and it is contemplated the laboratory will be ready for service within the next few days.

Provision was made with approval given by the Public Health Service for the employment of a full-time director of the Division of Venereal Diseases and also for the employment and travel of a milk sanitarian.

Financial assistance will be given to the department of health of the city of Kansas City when the full-time health officer is appointed and also to the city of Topeka. Certain funds have been allotted to Lyon, Sedgwick, and Shawnee counties and provision has been made for funds for assistance to at least two full-time county or district health departments to be developed.

Dr. C. E. Waller, Assistant Surgeon General, U. S. Public Health Service, in an address before the American Public Health Association at Milwaukee, in 1935, called attention to the fact that it is necessary for the Congress to

appropriate Social Security Act funds each year, and that without doubt Congress will be influenced by evidence of efficient administration and accomplishment, or by the lack of it. If the accomplishment should justify it, there is a possibility the government may even increase its participation in the future.

The United States Public Health Service has placed on the various states the responsibility for organization of the work and for qualifications of personnel. Therefore, it is the responsibility of the states to demonstrate to the Congress that the grants from the federal government are being wisely expended. That demonstration may be made by translating the provisions of the Act into action.

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#### ACTION CURRENTS IN SCHIZOPHRENIA\*

(Continued from Page 237)

served in other types of personality, and that these are sufficiently constant to have differential diagnostic value.

Previous studies in action currents have generally been made with highly complicated and temperamental apparatus. The modern electrocardiograph offers an instrument which is standardized and in which the factors of individual resistance in different patients can be eliminated. Its application is simple, it is easily available for use, and the findings of one observer can be accurately checked by any other using the standard instruments.

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\*Presented before the Missouri-Kansas Neuropsychiatric Society, December 11, 1935.

## OFFICIAL PROCEEDINGS

78th Annual Meeting

The House of Delegates met in regular session at 2:00 P.M. on May 11 at the Chamber of Commerce Building in Kansas City, Kansas. Dr. H. L. Snyder, President, served as presiding officer.

Upon motion of Dr. L. E. Growney the minutes of the last meeting were approved as printed in the Journal.

Dr. J. F. Gsell moved that all reports be briefly summarized at this meeting and printed in detail in the Journal. Seconded and carried.

Dr. H. L. Chambers, Secretary, presented the following report:

*To the President, Councilors and Delegates:*

The way things have developed, there is no definite statement in or among our laws as to what are the exact duties of the Secretary. By a process of common consent, I am leaving the most of the statistical matter as well as the matter of records to Executive Secretary Munns. This development makes me neither a statistical nor a recording but rather a constitutional secretary—whatever that is.

On this account, I am passing by the election and other business as transacted at Salina. You know all about it already. Also the recording and reporting of what has been done at the meetings of the Councilors, the various Committees and the acts of the various officers seems properly to belong in the office of Secretary Munns and he is covering it in his annual report and in the issues of the Journal.

I deem it proper to make some discussion of the membership here. As I write this—May 8—the membership is 1417. It is stimulating and encouraging to compare this with the 1394 at the beginning of May, and even more so to compare with the 1285 we had on the same date in 1935 or the 1171 in 1934. However, I hasten to point out that this is no time to become chesty or to relax in any way in the effort to increase the membership and to utilize the power that membership gives to get things done for the profession. Perhaps the chief reason for the increase in membership is the conviction in the minds of many that the medical profession needs organization to protect itself. This increase, then, is to be construed as also an increase in the responsibilities of those who have been selected to manage the affairs of the profession. I am not even sure that the responsibilities do not increase faster than the membership does.

Since coming into the room, I learn that the membership Saturday was 1440, which, I believe, is an all time record. Again I remind you that this represents an appeal for help and translates into an even greater increase in our responsibilities.

Three years ago this week, the Federal Emergency Relief Act was passed. Passing all discussion as to the wisdom of it, there is no reasonable doubt that the Congress intended the medical pro-



fession to benefit in its operation. Those who made the arrangements to administer it definitely and specifically provided for such consideration in regulation No. 7. Estimates on the amount due the profession in Kansas under this regulation per each year vary from \$1,007,000.00 to \$1,030,000.00. You know we did not get it nor scarcely any part of it and many of our members have actually suffered. The largest factor, I believe, in the increased willingness to join the society is the hope the doctors have that the organized profession can do something about the economic situation of which the federal betrayal is only a sample and index. The activities of our Committee on Economics seems to rationalize and to strengthen such hope.

Another factor in the increasing willingness to join and cooperate with the organized profession is the development of a somewhat different type of professional man. While the modern university trained medic is probably just as individualistic as the former preceptor trained one, he does have less fear and suspicion of his fellows, makes a consultation less of a bull fight, knows and more cheerfully admits his own limitations, suffers less from inferiority complexes and reacts less violently to them and all in all is much more cooperative and get-along-together-able. This all helps in getting the increase in membership.

I suppose a snake swallows a toad without personal animosity. One with a kindly disposition and a good imagination may even believe that he does it in a spirit of helpfulness—it surely is some protection to the swallowed batrachian—but the toad finds it a disquieting, even a terrifying experience. He just “doesn’t want to.” Now the sociologists and the socio-economists seem bent on making a snake and toad union with the medical profession and those of us who are fully awake are frankly terrified. This, I think, is another factor in our increase in membership, because, even the most individualistic would rather be swallowed up in the organized profession, than swallowed down by the social workers union.

You are getting individual reports from the various committees—all thirteen of them—except the Executive Committee, and will thus be able to live over the firing line experiences of the men who compose them. I have to say in general that the unusual alertness that shows up in the increase in membership is also reflected in the more than common activity among and in the Committees. After making due allowance for my own possible awakening from somnolence, I am still sure that the profession of Kansas is now more “up on its toes” than I have ever seen it before. This condition furnishes a solid background and support for the idea of more definite planning for long periods and the various committees are trying to promote it. It has been hoped that much of the committee work of this year will carry on into future years and not have to be repeated.

You all remember that The Kansas Medical Society was a going concern with considerable momentum when Dr. Hassig handed it over to the present administration. It is now obvious that Dr. Snyder and Mr. Munns have not permitted it to slow up any.

I close with another reference to the increased responsibility that comes on the officers because of the increased activity in the members and in the Committees. It would be a tragedy to let such loyal and

energetic support go unappreciated and unmatched.

Dr. Geo. M. Gray, Treasurer, presented the following report:

*To the House of Delegates:*

As Treasurer of The Kansas Medical Society, I herewith submit my financial statement of funds received during the year from April 30, 1935 to April 30, 1936. On May 1, 1935, the standing of the funds was as follows: Defense Fund, \$10,743.30, General Fund \$8,434.75 and in the Journal Fund \$442.90, making a total of \$19,620.95.

During the fiscal year I received on January 8, 1936, a draft from the Merchants National Bank for \$2,704.00, and also received dues from Dr. C. B. Johnson, Eudora, \$8.00 and on January 20, 1936, \$16.00 from C. G. Munns and on May 1, 1936, a draft from Merchants National Bank for \$10,800.00, making a total amount received of \$13,528.00 for the year. (Not including income of \$2,860.00 allocated from the Defense Fund.)

There was expended for the year ending May 1, 1936, from the General Fund \$11,713.89 and from the Defense Fund \$1,989.78, making a total expenditure of \$13,703.67, and the balance on hand May 1, 1936 was \$19,445.28. The standing of the funds May 1 was as follows: Defense Fund, \$8,753.52, General Fund, \$10,691.76, balance on hand in both funds, \$19,445.28. Vouchers drawn against the General Fund and paid during the year were in the amount of \$11,713.89, and vouchers drawn and paid from the Defense Fund totaled \$1,989.78.

For the past two years no part of the income has been added to the Defense Fund; consequently, it is depleted each year according to the amount of expenditures drawn against that fund. Just how far you wish to go in depleting the Defense Fund is a question that the House of Delegates should decide. I believe that under the resolution of Dr. O. P. Davis, adopted at the Wichita meeting, it was agreed that the General Fund amounts would be used in the General Fund expenses, until the Defense Fund was reduced to \$5,000.00. This probably is a safe amount for the operation of the Defense Fund as it averages about the same each year. You had one rather large expenditure in the past year, which was paid from the General Fund, to O’Neil and Hamilton for services in the Brinkley case. There has been another trial since that settlement in another court, with services of O’Neil and Hamilton in connection with that trial, bill for which has not been so far rendered, but undoubtedly they will have a bill of some sort.

The next largest expenditure from the General Fund was incurred in the Cancer Control Program, which amounted to \$749.37. In all probability, we will be requested to spend a like amount again this year.

During the past two years, the expenditures from the General Fund, with nothing deducted and added to the Defense Fund, have been slightly under the income, but if \$2.00 per member had been added to the Defense Fund, your General Fund would not be able to support the expenditures.

Under the new arrangement for editing the Journal, we have found it best to maintain a Journal Fund in Topeka, and in order to carry on this function, \$442.90, which was then in the Riverview Bank,

Kansas City, Kansas, as a Journal Fund, was transferred to the Central National Bank of Topeka on April 20, 1935, and from May 13 to July 15, 1935, the expenditures were handled by check signed by Clarence G. Munns. After July 15, when regular voucher form was adopted, which required the signature of the President and Secretary, and counter-signature of the Treasurer, were used. I have received all these checks and vouchers from the Central National Bank of Topeka, and checked them with my records, and find them correct, a list of which is hereto attached, and becomes a part of this report. The total expenditures from this fund were \$3,659.24.

According to the statement sent me from the bank, on April 30, 1936, you had a balance of \$762.27 in the Journal Fund. Your executive secretary advises me that this fund has a somewhat larger balance than this, due to reserves and checks not yet cashed but in his hands, and an item of good accounts payable and included in the April issue of \$50.20, which according to his estimate, would make the balance on hand in the Central National Bank in that account \$1,109.76. This amount then should be added to the \$19,445.28 in the General and Defense Funds, which would make the total funds of the Society on hand in the Central National Bank in Topeka and the Riverview State Bank of Kansas City, Kansas, of \$20,555.04. It seems to me that as long as your Treasurer resides outside of Topeka, this is the most desirable way to handle the funds.

At the present time no expenditures are made except by regular voucher form, signed by the President and Secretary and counter-signed by the Treasurer, except the Defense Fund, where under the new organization those vouchers are signed by the President and counter-signed by the Treasurer and Dr. O. P. Davis, as Chairman of the Defense Fund. I notice among these vouchers that one issued on August 22, was not signed by Dr. Davis, but it went through o.k. Dr. Davis may not have a record of this voucher, but it is No. 214, payable to O'Neil and Hamilton in the amount of \$75.00.

#### Standing of Funds May 1, 1935:

Defense Fund .....	\$10,743.30
General Fund .....	8,434.75
Journal Fund .....	442.90

Total .....\$19,620.95

#### Credits:

Jan. 8, 1936, Merchants Nat. Bank, Topeka (Dues).....\$	2,704.00
Jan. 15, 1936, Dues from C. B. Johnson, Eudora.....	8.00
Jan. 20, 1936, Cash from Clarence G. Munns, Secy.....	16.00
May 4, 1936, Dues from Secretary .....	10,800.00

Total .....\$13,528.00 \$33,148.95

#### Expended for year ending May 1, 1936:

General Fund .....	\$11,713.89
Defense Fund .....	1,989.78
	\$13,703.67

Balance on hand May 1, 1936 .....\$19,445.28

#### Standing of the two funds May 1, 1936:

Defense Fund .....	8,753.52
General Fund .....	10,691.76

Journal Fund .....	\$19,445.28
	762.27

Total .....\$20,207.55

(A list of individual vouchers issued during the year is officially filed at central office, and available for inspection by members.)

Dr. O. P. Davis, Chairman of the Defense Board, submitted the following report:

#### To the House of Delegates:

Your Medical Defense Board submits the following report of its operations during the past year, including the report of its legal department, which is attached as a supplement.

There have been ten new cases filed since our last report. Of all the cases, old and new, there are now pending for trial six cases. There have been five cases won for our defendant members; one case lost, which has been appealed by us to the Supreme Court. One case is expected to be appealed by a defeated plaintiff. Nine cases have been dismissed, either on demurrer or for lack of prosecution. Three cases have been settled by the insurance carrier. We are opposed to settlement or compromise, as a rule, but we cannot always prevent it, when an insurance carrier is associated in the case.

The expenditures of the Board for the year have been \$1,989.78, which is \$340.12 in excess of the previous year. It is obviously impossible to forecast the expenditures of any year. The number of new cases is always problematical, and the distribution of the cases with reference to the distance from Topeka, the nature of the cases as to the validity of the charges, and the delays, continuances and subterfuges so commonly incident to legal procedure are all factors in the cost of defense. The average accusation of malpractice is nothing else than legal blackmail, and it is a part of the nefarious scheme to make it as expensive as possible for the prospective defendant, in the hope that he will come across with a liberal proposition of settlement.

Medical defense in our society has cost, during the past twenty-two years, an average per year of \$1,548.76. In each of the years 1926, 1929 and 1930, it cost a little above \$2,000.00. 1919 was our cheapest year, costing \$759.41. As usual, a table is shown at the end of this report, giving the expenditures, year by year, for the past twenty-two years.

For a long time there has been an ample surplus in the Defense Fund. This surplus gave the Board a very comfortable feeling in times when there were unusual demands on our resources. We felt that we could afford to fight every case to a finish without too much concern as to the cost or whether we could meet the bills. Medical defense, like war, is usually costly. Yet a just war must be won, at any price, and so must our law-suits in defense of our members. During the past year all defense expenses have been paid out of our accumulated surplus, the usual defense assessment being omitted. It is intended, under the proposed new Constitution, to turn all the existing surplus into the general fund, to discontinue the defense per capita assessment and provide for all defense activities by a budget apportionment from the funds raised from the regular annual dues. This will be all right, provided a liberal policy is followed in making such apportionment. If, however, there develops a parsimonious disposition in dealing with this



department, we may as well get ready at once to go out of the defense business. It cannot succeed if pursued on a pinch-penny basis.

We desire to express our satisfaction with the efficient services of our attorney and counsel, Mr. John Hamilton. Mr. Hamilton has been on leave for the past several months. During his absence the legal work has been competently carried on by his partners, Mr. O'Neil and Mr. Griffith.

The Chairman of this Board wishes to interpolate a personal remark in conclusion. Last year, at Salina, he supposed that his connection with this enterprise was at an end. He even sang his "swan song". He found, a few days later, that this supposition was erroneous. By what sort of legerdemain this was accomplished has not been made clear. He still thinks his present connection with the Board is extra-legal and unconstitutional. However, he has so much interest in this 25-year-old pet that he is willing, at any time, to do whatever he can in its behalf, and appreciates the very spacious and insupportable allegations some of his friends made when they thus succeeded in temporarily re-attaching him to this Board.

Defense Board Expenditures—22 Years	
1915 .....	\$ 1,254.95
1916 .....	1,189.27
1917 .....	777.45
1918 .....	809.58
1919 .....	759.41
1920 .....	1,245.51
1921 .....	1,458.35
1922 .....	1,236.08
1923 .....	1,310.96
1924 .....	1,479.76
1925 .....	1,970.05
1926 .....	2,008.13
1927 .....	1,981.03
1928 .....	1,949.02
1929 .....	2,279.43
1930 .....	1,549.54
1931 .....	1,759.86
1932 .....	1,812.84
1933 .....	1,583.60
1934 .....	2,093.47
1935 .....	1,649.66
1936 .....	1,914.78
Total, 22 years .....	\$34,072.73
Average per year .....	1,548.76

Dr. O. P. Davis, Chairman,  
Medical Defense Board,  
The Kansas Medical Society,  
Topeka, Kansas.

April 24, 1936

Dear Doctor Davis:

"We enclose herewith the annual summary of cases made up in the usual form which we have heretofore employed, covering the period of April 1, 1935 to April 1, 1936.

The case decided during the above period which we think is of the most importance to medical jurisprudence is that one decided in March, 1936, by the Kansas Supreme Court. Heretofore in cases of malpractice, where more than two years had elapsed since the alleged negligence it was the practice of attorneys to file a petition in which they alleged that the doctor orally contracted to perform a certain treatment and that he breached his contract in his negligent treatment. On this theory they attempted to apply to their case the three year statute of

limitations applicable to oral contracts. By reason of the decision in this case this is no longer possible in the State of Kansas. The syllabus in the case reads as follows:

'Malpractice—Action of Contract or Tort—Limitations. The petition considered in an action by a patient against a surgeon for damages consequent on acts of the surgeon in failing to perform an operation according to proper surgical practice, and held, notwithstanding the petition was in form one for breach of contract to perform the operation in accordance with proper surgical practice, the gravamen of the action was malpractice, which is a tort, and the action was barred by the two-year statute of limitations.'

Yours very truly,

O'Neil, Hamilton & Griffith,  
By Barton E. Griffith."

(A detailed list of cases handled during the year is officially filed at the central office and available for inspection by members.)

Dr. W. M. Mills, Chairman, presented the following report on behalf of the Editorial Board:

#### To the House of Delegates:

The Editorial Board submits the following report on behalf of the Journal for the period from May 1, 1935 to May 1, 1936.

A financial statement which takes into consideration all income and expense to and including the April issue shows the following condition:

I.	Cash on hand, May 1, 1936.....	\$ 475.50
II.	Income During the Year	
	Advertising .....	\$3,934.02
	Subscriptions .....	71.50
	Miscellaneous .....	15.79
	Total .....	\$4,021.31 \$4,021.31
III.	Expenditures During the Year	
	Stock and Printing .....	\$2,955.00
	Engraving .....	242.35
	Mailing & Deliv. Journals.....	117.80
	Stationery and Editorial	
	Supplies .....	65.90
	Drayage .....	6.00
	Total .....	\$3,387.05 \$3,387.05
IV.	Cash on hand April 30, 1936.....	\$1,059.51
	Good accounts receivable	
	April 30, 1936.....	50.25

#### V.

Total available surplus	
April 30, 1936 .....	\$1,109.76

Since the above surplus is deemed adequate and as a gradual increase is being shown in monthly profits, the Editorial Board believes that it is now able to place the Journal on a nearly self-supporting basis by paying a portion of Miss Peggy Strawn's salary. An estimate by the Executive Secretary indicates that she spends approximately two-thirds of her time in assisting with various functions of the publication and thus, since her present compensation is \$85.00 per month an amount

of \$57.00 per month would seem to be properly chargeable to the Journal. If the House of Delegates desires that her salary be handled in this manner, we shall be glad to assume the above responsibility effective May 1, 1936.

The present circulation of the Journal is approximately 1800 copies per issue, which represents somewhat of an increase over last year. We are also conducting an experiment in attempting to interest non-resident physicians who hold Kansas licenses in subscriptions with the hope that a further increase in circulation may be obtained. If this is successful, there is a possibility that advertising rates can be raised, which, of course, will provide additional income.

The Editorial Board has continued its policy of defraying the costs of engravings used to illustrate articles. Although this has occasioned some additional expense, it is believed that the service is a just one and that it tends to encourage preparation of scientific material.

During last September an offer was made to the students of the University of Kansas Medical School through which they might obtain subscriptions to the Journal for the approximate cost price of fifty cents per year. To date, twenty students have responded.

A policy was instituted last December wherein complimentary copies of books received for review are loaned to members and subsequently returned for donation to the Stormont Medical Library. It is believed that this plan will permit approximately sixty books to be added each year to the above library.

Present indications are that printing costs and other overhead will remain fairly constant during the next year and there is a good possibility that the volume of advertising may be further increased. If this occurs, the Board has in mind an increase in number of pages and an addition of several new sections.

The foremost problem of the Editorial Board is the acquisition of a sufficient amount of scientific material. The fact that no state meeting is to be held this year will materially add to that problem and thus if the House of Delegates and the Council can offer assistance in that direction, their aid will be greatly appreciated.

It is our desire that the Journal shall be constantly improved and that it shall completely represent the wishes of its readers. We shall sincerely appreciate your frank criticism and suggestions toward that end.

Dr. Geo. M. Gray moved that a rising vote of thanks be extended the Editorial Board for the splendid work done during the past year, and that the report be accepted and made a matter of record. Seconded and carried.

(To be continued in the July issue)

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## MEDICAL LITERATURE

Edited by Will C. Menninger, M.D.

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### MUMPS ORCHITIS

A thorough review of the literature on mumps orchitis is presented by Stengel in re-

gard to incidence, etiology and pathogenesis, symptoms, pathologic anatomy, diagnosis, and treatment. Conclusions reached are: (1) Mumps is a virus disease; (2) Orchitis in mumps is important because of the possibility of subsequent sterility or impotence; (3) There is a definite relation between the parotid gland and the genitals; (4) Orchitis usually follows parotitis and is more often unilateral than bilateral; (5) Orchitis is probably a hematogenous metastasis; (6) Orchitis is most frequent at the age of puberty; its incidence being about 18.2 per cent in a large number of cases; (7) Rise in temperature, swelling, tenderness and pain in the testicle, subsidence of fever by lysis, later variability in size of the gland are prominent symptoms of orchitis; (8) Orchitis may be complicated by meningitis and other central nervous system involvements, "atrophy" of the testis in forty to sixty per cent, or impotence and sterility; (9) The lesion in orchitis is probably a parenchymatous sclerosis; (10) Diagnosis in epidemics is easy; may be difficult in absence of epidemic or marked parotitis; (11) Prophylaxis is by prevention of the disease; treatment is purely symptomatic; and (12) Use of convalescent serum or surgical incision may give good results.

Stengle, Alfred, Jr.: Mumps Orchitis, *American Journal of the Medical Sciences* 191:340-356, March 1936.

### ABDOMINAL DISTENTION IN LOBAR PNEUMONIA

Since Goldman and Cohen conclude that abdominal distention is the commonest complication in lobar pneumonia and a contributory factor, when extreme, in the mortality rate, they describe a procedure for rectal suction siphonage which has proved to be a safe, inexpensive, and effective method of relieving this distention in their patients. The apparatus used is similar to that used for nasal catheter suction siphonage except that a soft rubber rectal tube has been substituted for the Levin duodenal tube. The patient is given cleansing soap suds enemas until the return flow is fairly clear (usually one or two.) A liquid stool is obtained by giving the patient daily one ounce of saturated magnesium sulphate solution; when the liquid stool is obtained, the dosage may be reduced. A soft rubber rectal tube, lubricated with vaseline or an astringent



rectal jelly, is inserted from two to three inches into the rectum; if the tube is forced farther it will coil on itself, balloon out the rectum, and give the patient a false rectal impulse. The apparatus consists of two bottles of four liter capacity—one hung inverted from an irrigation standard, the other set on the floor. A two-holed rubber stopper with two glass tubes, one short (about four inches) and the other long enough (about fourteen inches) to extend almost to the bottom of the inverted bottle, fits into the mouth of the inverted bottle. The longer glass is connected to the rectal tube by a rubber tube and the shorter one, by the same means, to the bottle on the floor. Both tubings are clamped off. Enough water is placed in the floor bottle to cover the tube well. The clamps on the tubing are then removed while a finger is held over the end which will later be attached to the rectal tube. If suction is not immediately felt, there is air in the tubing leading to the lower bottle which can easily be removed by injecting a few cubic centimeters of water with a syringe into the tube which is connected to the longer glass tube. When suction is perceived, the tube is connected with the rectal tube. There is no danger of dehydration as long as the urinary output remains from 800 to 1200 c.c. daily or better. The tubes must be irrigated at least every four hours by forcing fluid through them and thoroughly cleaned or replaced when they are blocked by fecal masses. This procedure is used only as long as is necessary to reduce the distention and may be repeated if distention recurs. Most of the cases were controlled within twenty-four hours.

Goldman, Joel and Cohen, Abraham: Abdominal Distention in Lobar Pneumonia. *Annals of Internal Medicine* 9:1222-1231, March 1936.

### BROMIDE ACTION IN EPILEPSY

A study of the response to bromide therapy of seventy-two patients with epilepsy lead Boshes to experimental studies with rabbits herein reported. It was concluded that epileptic seizures, induced in rabbits with two per cent thujone in six per cent gum acacia, can be ameliorated or prevented by feeding sodium bromide to a point where certain blood concentrations are attained. In rabbits large accumulations of sodium bromide in the blood cause no alteration in the total blood halides. Bromides replace chlorides ion for ion and vice

versa. In bromized rabbits the brain bromide concentration is very small, particularly in cases where the animal has been well exanguinated, and bears no constant relationship to blood bromide level. A hypochloremic state does not prevent induced thujone seizures in rabbits. The chloride ion has no convulsant action and the anti-convulsant effect of bromides is a bromide-ion action.

Boshes, Benjamin: A Study of the Action of Bromides in Clinical and Experimental Epilepsy. *Journal of Nervous and Mental Disease* 83:390-404, April 1936.

### ENDOCRINE DIAGNOSIS AND TREATMENT

According to Hutton, the following conditions should lead to an endocrine examination: (1) Cases in which the diagnosis is uncertain and unsupported by clinical and laboratory data; (2) Cases in which the diagnosis seems correct but in which the indicated treatment fails to produce the expected results; (3) Every case of neurasthenia and nervousness and cases in which there is uncertainty as to the presence of Graves' disease; (4) Growth deficiencies; (5) Genital hypoplasia; (6) Menstrual disorders not clearly due to local pathology in the pelvis; (7) Headaches; (8) Obesity; (9) Certain bone conditions, such as cysts, decalcification, slipping of the epiphyses, and fractures that fail to unite; (10) Diabetes mellitus; (11) Essential hypertension; and (12) Patients who complain of mental or physical retardation, loss of memory and lack of concentration. The diagnosis of endocrinopathies should be based on the exclusion of nonendocrine conditions; a detailed history of the patient's complaints, development, menstruation, and height and weight of relatives; a routine physical examination with particular attention paid to stature and proportion of measurements; and laboratory examination and tests if necessary. New therapeutic agents mentioned and discussed by Hutton are the parathyroid hormone, the hormone of the adrenal cortex, an insulin-free extract of the pancreas, which is useful in the treatment of angina pectoris, the sex hormone of the anterior lobe, diathermy, the ovarian hormone, and the roentgen ray.

Hutton, James H.: Recent Advances in Endocrine Diagnosis and Treatment. *Journal of Laboratory and Clinical Medicine* 21:736-742, April 1936.

## NEWS NOTES

### SOCIAL SECURITY ACT

*There is published elsewhere in this issue a description by Dr. Earle G. Brown, Secretary of the Kansas State Board of Health, of the Kansas plan for the Social Security Act. A suggestion is made that every member carefully read this article. The Medical Economics Committee is also preparing a summary of the application of the Act in Kansas which will be available to all county medical societies in the near future.*

### ANNUAL MEETING

Major actions of the meeting of the House of Delegates and the meeting of the Council held in Kansas City, Kansas on May 11 are as follows:

Dr. J. F. Gsell, Wichita, was elected President-elect for 1936-1937 and President for 1937-1938; Dr. N. E. Melencamp, Dodge City, as first Vice-president; Dr. Geo. W. Davis, Ottawa, as second Vice-president; and Dr. Geo. M. Gray, Kansas City, was re-elected, Treasurer. No election was necessary for the office of Secretary, inasmuch as Dr. H. L. Chambers was elected for a term of three years at the 1935 annual session.

Dr. L. S. Nelson, Salina was elected as Councilor for the Eighth district in the place of Dr. Alfred O'Donnell who has served the maximum period of two consecutive terms. Dr. F. R. Croson, Clay Center was chosen to replace Dr. C. C. Stillman, Morganville as Councilor of the Seventh district, who also has completed two terms. Dr. R. T. Nichols, Hiawatha, and Dr. L. F. Barney, Kansas City, were re-elected respectively to fill second terms in the First and Second districts.

Dr. O. P. Davis, Topeka, was continued as a member of the Defense Board and Dr. L. S. Nelson, Salina, was elected to the vacancy occasioned by the expiration of Dr. E. C. Duncan's term on the same Board.

Dr. W. M. Mills, Topeka, and Dr. L. R. Pyle, Topeka, were appointed as members of the Editorial Board for terms of three years each, and Dr. R. B. Stewart, Topeka, and Dr. F. C. Taggart, Topeka, for terms of two years each. Instruction was also given that the above members shall select the fifth member of the Editorial Board provided by the new Constitution and By-Laws. Dr. Mills was retained as Editor of the Journal.

Decision was made that the next annual session shall be held at Topeka on May 3, 4, 5, 6, 1937 and Shawnee County Medical Society was asked to assume responsibility for completion of arrangements.

The Constitution and By-Laws submitted by the Committee on Revision of Constitution and By-Laws was approved with several amendments and became operative at the close of the above meeting.

A motion was approved wherein annual dues will not be established in varying amounts each year but will continue regularly at \$10.00 per member until occasions arise necessitating revision.

Official county medical society charters were authorized for Osage and Wabaunsee counties.

The House of Delegates meeting was attended by approximately 125 members which was deemed particularly successful considering the fact that the event was not held at a regular annual session and although available time and a large agenda handicapped procedure a large amount of business was excellently transacted.

### TUBERCULOSIS CONFERENCE

Representatives of the Kansas State Board of Health, The Kansas Tuberculosis and Health Association, The Kansas Tuberculosis Sanatorium and the Society attended a tuberculosis conference in Topeka on May 26. The meeting was called by Dr. C. H. Lerrigo, of the Kansas Tuberculosis and Health Association for the purpose of discussing ways and means wherein the four agencies of the state most interested in this problem could better unify and coordinate their efforts.

Foremost action of the meeting was the approval of a suggestion that the Society appoint a Committee on Control of Tuberculosis which would offer its services in an advisory capacity to the various groups engaged in tuberculosis activity and which would attempt to interest the county medical societies in state wide programs on this subject.

Dr. Lerrigo stated at the conference that he had long desired to see an arrangement of this kind perfected and that in his opinion unified organization through the medium of the Society and the county medical societies would do more to promote an efficient tuberculosis program than any other factor.

Appointments made to date on the above Committee are as follows: Chairman, ex-officio, Dr. H. L. Snyder, Winfield; Vice-chairman, Dr. C. F. Taylor, Norton; Dr. C. H. Lerrigo, Topeka; Dr. Earle G. Brown, Topeka; Dr. H. L. Chambers, Lawrence; Dr. Harold H. Jones, Winfield and Dr. F. L. Loveland, Topeka.

A first meeting of the Committee is planned in June for discussion and organization of activity for the next year.

### MEMBERSHIP

As is shown in the report of the Secretary contained in the House of Delegates proceedings the Society has accomplished two membership records during the present year. One of these pertains to county medical society membership which at the date of the annual meeting totaled 1440 members and the other relates to fellowship in the American Medical Association which totaled slightly more than 1000 at the same date.

The fellowship figure establishes an all time record for the Society and the county medical society membership is the greatest ever shown at the date of an annual session.

### MATERNAL AND CHILD WELFARE COMMITTEE

By reason of the many activities to be accomplished in the field of maternal welfare and child health under the Social Security Act, Dr. H. L. Snyder, recently increased the membership of the Society Committee on



Maternal and Child Welfare to provide a larger working group in that interest. The new members added are as follows: Dr. J. D. Clark, Wichita; Dr. Clay E. Coburn, Kansas City; Dr. Harry Davis, Topeka; and Dr. T. J. Sims, Kansas City.

A joint meeting between this Committee, Dr. Earle G. Brown, Secretary of the Kansas State Board of Health, and representatives of other groups interested in the Social Security Act was held in Topeka on May 29 and plans were completed for the assistance to be offered by the Society in this behalf.

### WPA MEDICAL HISTORY

The National Writers' Project in Kansas commenced activity on approximately May 1 toward completion of the Kansas Medical History described in preceding issues of the Journal.

Representatives of this group are at the present time interviewing physicians in all parts of the state and engaging in research at various state archives in the interest of assembling all available historical information on this subject. The Society Committee on Medical History is particularly anxious that these interviews be extended all possible assistance and cooperation.

### LIASON COMMITTEES

Following conferences between the Kansas State Board of Health and Dr. H. L. Snyder, a bulletin will be issued in the near future to the county medical societies requesting the establishment of a committee in each county to serve as a liason committee with the State Board of Health. The purpose of these committees is to aid in the further coordination of the activities of the State Board of Health in all phases relating to public health and such other matters as come under its jurisdiction.

### NEW STATE LABORATORY

Through financial assistance received from the Social Security Act, the Kansas State Board of Health has recently established an additional state laboratory in Parsons to serve southeast Kansas. A letter of announcement issued to physicians in that area reads as follows:

May 9, 1936.

"The Kansas State Board of Health has established a district laboratory at Parsons. The laboratory is located in the hospital building on the grounds of the Parsons State Hospital.

The laboratory is equipped to make various types of tests relating to the diagnosis and control of the acute infectious diseases except serological examinations for syphilis. Blood specimens or spinal fluids for Wassermann or Kahn tests should be sent to the central laboratory in Rice Hall, Washburn College, Topeka.

Raymond E. Leach, a graduate of the University of Kansas and for the past six years in the central laboratory at Topeka, will be the bacteriologist in charge of the district laboratory. He will be pleased with the opportunity to render you prompt and efficient service.

The laboratory has telephone service, and the post office box number is 647.

The laboratory has been established with the idea that more prompt service can be secured by the physicians in southeast Kansas, and it is hoped you will make use of its services. You are, of course, invited to call and inspect the laboratory and make the acquaintance of Mr. Leach at any time you are in Parsons.

Very respectfully,

Earle G. Brown, M.D.,

Secretary and Executive Officer."

### SOCIAL LEGISLATION

The Kansas Association for Social Legislation, a group composed of social workers and various social agencies, met in Topeka recently to consider a proposed legislative enactment for establishment of state and local public welfare boards. It is planned that these boards would supervise Kansas old age pensions, unemployment insurance, aid to dependent children and other functions under the Social Security Act.

Representatives of the Society who attended the meeting found that certain medical and public health activities had been included in the proposed act. After several conferences with officials of the organization, an agreement was reached that these activities should be amended out of the bill.

### WPA NURSERY SCHOOLS

The following bulletin was forwarded to the secretaries and presidents of county medical societies on May 4, 1936:

As you possibly know, the Kansas WPA has under its direction a Nursery School Project, sponsored by the State Department of Public Instruction, wherein nursery schools are established for the benefit of children of relief and similar low income families. These schools, which are locally supervised by a head teacher and which usually have a registered nurse as a staff member, are now being operated at the following places in the state:

Sublette	Frontenac	Abilene
Atchison	Girard	Herington
Lawrence	Pittsburg	Manhattan
Valley Falls	Parsons	Wichita
Leavenworth	Cherryvale	Wellington
Topeka	Fredonia	Logan
Kansas City	Neosho Falls	Phillipsburg
Galena	Yates Center	Goodland
Arma	Concordia	Satanta

The federal funds provided for this purpose do not include medical attention but certain medical supplies may be furnished on requisitions for materials and supplies. However, since the WPA does not desire that these supplies shall be administered without proper medical diagnosis, an arrangement has been approved wherein each county medical society in a county where one of these schools is located may, if it desires, appoint an advisory committee to supervise and approve all functions of that nursery school which relate to health and medical attention.

It is mutually understood and desired that all forms of treatment and examination shall be left entirely to the

various family physicians of the children enrolled in the schools. Thus, it should be made clear that the advisory committee, if utilized, would not be expected to serve in this manner.

Other parts of the agreement with the Kansas WPA are as follows: The State Supervisor will require that lists of medical supplies requested by a head teacher shall bear the approval of the advisory committee of the county medical society where that particular school is located. Suggestions and instructions may also be given toward preventing the spread of contagious diseases and for all other matters of public health. Likewise, a child may be dismissed from school upon suspicion of symptoms suggesting a contagious disease and will not be readmitted until a certificate has been obtained from a physician. Certificates of this kind will be honored only when signed by a licensed doctor of medicine.

The Kansas WPA is also interested in providing the children enrolled in these schools with certain types of immunization and with thorough physical examinations. Representatives of this Committee are now holding conferences in the interest of attempting to develop a program of this kind under the Social Security Act, and additional information will probably be bulletinized on that subject in the near future.

As stated above, the agreement with the WPA purports only to make available these arrangements if they are desired by your county medical society. Thus, if your group is interested, the nurses and teachers in charge of the local projects will be glad to cooperate in any way desired.

Maternal and Child Welfare Committee,  
John L. Grove, M.D., Chairman.

### HONORARY MEETINGS

Meetings honoring Dr. A. J. Anderson, Lawrence, Dr. W. E. Ham, Beattie, Dr. Robert Hawkins, Marysville, Dr. F. E. Schenck, Burlingame, and Dr. Charles M. Stemen, Kansas City, were held recently by the county medical societies of their membership.

Dr. Anderson was the guest of honor at a dinner-meeting of the Douglas County Medical Society held in Lawrence on May 7 to celebrate his fiftieth year in practice. Judge Hugh Means, Lawrence, spoke on "Some Medical-Legal Aspects of Practice" and Dr. Anderson was presented with a silver plaque upon which the following was inscribed: "A. J. Anderson, M. D.—1886-1936—Fifty Years a Benefactor to Lawrence, Kansas."

The Marshall County Medical Society held a special meeting at the home of Dr. J. W. Randell on April 23 to honor Dr. Ham's and Dr. Hawkins' long years of service to the public and profession. Dr. Floyd Spencer, Dr. H. E. Peterson, Dr. E. M. Shores, and Dr. Jacob Kulowski, all of St. Joseph, spoke on subjects relating to tuberculosis.

Dr. Schenck's fifty-four years of practice were honored by the Osage County Medical Society at a banquet given by that society in Burlingame on April 16. Dr. J. L. Lattimore, Topeka, paid tribute to Dr. Schenck and presented him with a certificate of honorary membership. Dr. Fred Angle, Kansas City, also spoke on "Malta Fever."

The members of the Wyandotte County Medical

Society attended a dinner-dance in Kansas City on May 26 which was given in honor of Dr. Stemen's fiftieth anniversary in the practice of medicine.

### COUNTY SOCIETIES

Dr. L. C. Edmonds, Horton, was elected president of the Brown County Medical Society to fill the unexpired term occasioned by Dr. W. G. Emery's removal to Leavenworth, at a meeting of that society held on May 1 in Hiawatha.

The Cloud County Medical Society held a luncheon meeting on May 1 to elect officers for the coming year. Those elected are as follows: Dr. Frank Kinnamon, president; Dr. C. D. Koser, vice-president; Dr. J. M. Porter, secretary-treasurer, all of Concordia. Sixteen members were present at the meeting.

Members of the Dickinson County Medical Society were guests of the physicians of Hope at a dinner-meeting on April 23.

The Greenwood County Medical Society met in Eureka on May 6. Principal speaker on the program was Dr. John Kleinhessel, Wichita, who spoke on "Diabetes in Pregnancy," and "Diabetes as Associated with Hardening of the Arteries."

A meeting of the Marion County Medical Society in Marion on May 6 followed a dinner at the Elgin Hotel. Dr. W. M. Tate, Peabody, spoke on "Leukemia with its Nervous Manifestations," and Dr. A. C. Eitzen, Hillsboro, discussed "Epidemic Encephalitis."

The Northwest Kansas Medical Society held a meeting on April 30 in Norton. Sixteen members and fourteen visitors were present. Officers elected for the coming year are as follows: Dr. Philip Cohn, Norton, president; Dr. Edw. F. Steichen, Lenora, first vice-president; Dr. G. W. Hammell, Hoxie, second vice-president; and Dr. C. F. Taylor, Norton, secretary-treasurer. Dr. D. V. Conwell, Halstead, gave a paper on "Organic Psychosis." Dr. C. F. Taylor, Norton, gave a brief resume of his visit to the Leper Colony at Carville, Louisiana, illustrating his talk with films.

A meeting of the Osage County Medical Society was held in Alta Vista on May 29. Dr. L. V. Dawson, Ottawa, spoke on medical economic subjects.

Dr. J. F. Gsell, Wichita, and Dr. C. F. Hinshaw, Wichita, were the guest speakers at a meeting of the Pratt County Medical Society held in Pratt on April 24. Dr. Gsell spoke on "Foreign Body Conditions of Ear, Eye, Nose and Throat" and Dr. Hinshaw, spoke on "Scarlet Fever."

A joint meeting of the Sumner County Medical Society and the Sumner County Dental Society was held on May 28 in Wellington. Dr. Ferdinand C. Helwig, Kansas City, Missouri, assisted by Dr. Boyd S. Gardner, discussed treatment of Vincent's agina by electro-coagulation.

A meeting of the Wyandotte County Medical Society was held in Kansas City on May 6. The following speakers and respective subjects were presented: Dr. H. R. Wahl, "Pathological Conference"; Dr. C. A. Gripkey "Post Operative Complications Following Thyroidectomy"; Dr. D. C. Peete, "Differential Diagnosis in Myocardial Diseases". Another meeting of the society was held on May 26 to honor Dr. C. M. Stemen, who celebrated his fiftieth anniversary in practice.



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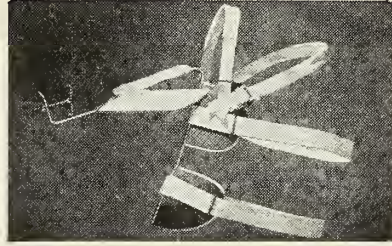
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## MEMBERS

Dr. T. R. Hyatt, Topeka, has filed as a candidate for the Republican nomination for county commissioner in Shawnee County.

Dr. O. E. Stevenson, Oswego, was elected president of the Kansas Health Officers and Nurses Association at a meeting held in Topeka in April.

Dr. C. F. Menninger, Topeka, was recently elected to membership in the American Psychiatric Association.

Dr. A. F. Rossitto, Whitewater, left for Chicago during the first part of May to enroll in a post-graduate course in radiology.

Dr. H. L. Snyder, Winfield, and Dr. James M. Scott, Topeka, accompanied the Kansas official representatives to the Republican convention in Cleveland.

Mac Cahal, Executive Secretary of the Sedgwick County Medical Society presented a paper on "Organized Medicine and Legislation" at the Conference of Executive Secretaries held in connection with the Kansas City meeting of the American Medical Association.

Iowa and Harvard Medical Schools for his medical training. He was licensed to practice in 1901. He had practiced in Leavenworth for thirty-seven years. He served fourteen years as physician for the county and city and was surgeon at the federal prison from 1914 to 1926. He was a member of the Leavenworth County Medical Society.

Dr. Julius Wesselowski, 78 years of age, died at his home in Jewell City, on April 17. He was born in Hamburg, Germany, in 1858. He came to America in 1876, and established his practice in Jewell City eleven years later. He practiced in that town for sixteen years and then went to Oklahoma territory and later Kansas City. He returned to Jewell City in 1909 and spent the remaining years of life there. He obtained his medical education in Germany, New York and Kansas City. He was an honorary member of the Jewell County Medical Society.

## NEW BOOKS RECEIVED

RECENT ADVANCES IN MEDICINE, by G. E. Beaumont, M.D., Middlesex Hospital, London and E. C. Dodds, M.D., professor of biochemistry, at the University of London. Published by P. Blakiston's Sons & Company, Inc., Philadelphia, at \$5.00 per copy.

ROENTGENOGRAPHIC TECHNIQUE, Second Edition Revised, by Dr. Darmon A. Rhinehart, professor of roentgenology and applied anatomy, University of Arkansas, School of Medicine. Published by Lea & Febiger, Philadelphia, at \$5.50 per copy.

BEWILDERED PATIENT by Dr. Marian Staats Newcomer. Published by the Hale, Cushman & Flint, Publishers, Boston, Massachusetts, at \$1.75 per copy.

INTERNATIONAL CLINICS Vol. II Forty-Sixth Edition, edited by Dr. Louis Hamman, Johns Hopkins Hospital Baltimore, Maryland. Published by J. B. Lippincott Company, Philadelphia.

## BOOK REVIEWS

OBJECTIVE AND EXPERIMENTAL PSYCHIATRY by D. Ewen Cameron, M.B., Macmillan Co., New York, 264 pages, \$3.00.

This author presents a collection of data on what he calls "objective" psychiatry. It is chiefly a none-too-complete review of the literature covering the laboratory investigations in mental illnesses. While there is an occasional reference to some of his own published work, most of the material is a collection of the work of other investigators summarized but not evaluated. He decries the "purely observational method" in psychiatry and prefers the statistical approach. One of his chapters is devoted to statistics and another to statistical methods. His style is somewhat obscure, particularly the first two chapters, and he makes the error of placing too much emphasis on diagnostic categories. He covers such fields as heredity, conditioned reflex, blood sugar tests, respiration, basal metabolism, and blood pressure.

## MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

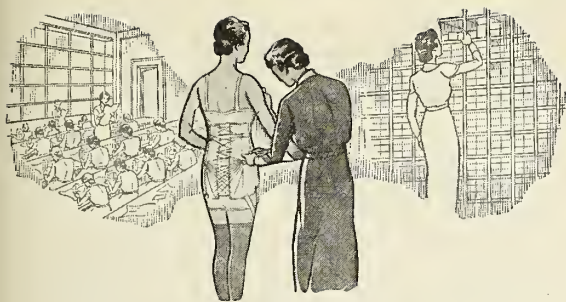
Disease	Month ending May 23	Month ending April 25
Scarlet Fever .....	1148	1881
Chickenpox .....	323	726
Pneumonia .....	250	637
Mumps .....	232	458
Smallpox .....	143	157
Whooping Cough .....	142	162
Influenza .....	94	334
Tuberculosis .....	62	70
Measles .....	60	79
Syphilis .....	53	101
Diphtheria .....	52	63
Gonorrhea .....	28	70
Vincent's Angina .....	20	40
Erysipelas .....	18	32
German Measles .....	12	10
Septic Sore Throat .....	9	17
Cancer .....	5	5
Pink-eye .....	5	4
Meningitis .....	4	9
Undulant Fever .....	4	4
Typhoid Fever .....	4	4
Poliomyelitis .....	2	0

## DEATH NOTICES

Dr. William Kermott Johnson, 79 years of age, of Garnett, died at the University of Kansas Hospital, Kansas City, on April 30. He was born in Almond, Alleghany County, New York in 1856 and had been a physician in Garnett since 1918. He received his medical training at the Keokuk Medical College, Keokuk, Iowa, and graduated from there in 1891. He was a member of the Anderson County Medical Society.

Dr. Stewart McKee, 75 years of age, died in Leavenworth on May 5. He was born in 1860 and attended the





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*Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245 ★*

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The book is helpful in that it does summarize the work in these various fields and gives an investigator sufficient data to orient himself as to what has been done. There is a good bibliography and a good index.

William C. Menninger, M.D.

**THE HUMAN FOOT.** By Dudley J. Morton, M.D., New York, The Columbia University Press, 1935. Price \$3.00.

This is probably one of the most scholarly presentations on this subject in recent times. It includes much of the work the author has been carrying out on this subject for many years. He considers the evolutionary development of the human foot, beginning at the very origin of life and tracing it thru the earliest fishes, the amphibian, reptilian, mammalian and early primate forms of life. The pro-anthropoid and anthropoid changes are fully considered, and this is followed with the terrestrial modifications of the gorilla and early pre-human feet. These studies form a most excellent basis for the understanding of the morphological features of the human foot.

The second portion of the text deals with the physiology of the human foot, with full consideration of static and dynamic factors. The relationship of the line of gravity is first considered and this is followed with a consideration of the foot balance in stance and in locomotion. These studies are based not only upon the foregoing considerations but also upon experimental examinations of living beings, both among African natives, and individuals living in modern civilized communities.

The third portion of the book deals with a consideration of the functional disorders of the human foot. As a result of the foregoing chapters and the clinical examination of patients with foot disorders, he has considered the primary factors in the etiology of certain foot disorders as being due to certain underlying abnormalities. These are the shortness of the first metatarsal bone, with abnormal dorsal hypermobility of the first metatarsal segment which includes the tarso-metatarsal joints; the abnormal load thereby forced on the second metatarsal bone as a result of which there is hypertrophy of same; posterior location of the sesamoid bones. The author places more importance on these anatomic-pathological factors than upon muscular weakness. He does place importance on shortened calf muscles and relative disturbance in the pronation-supination power of the foot. He presents the findings in about 150 cases collected for analysis, from the New Haven Hospital records, and carefully considers his method of estimating and measuring his findings.

Finally, the author very briefly considers the therapeutic management of these cases, basing his treatment on the etiological factors already considered. All in all it is a most excellent presentation. He does depart from the usual path taken by most investigators of the subject but he presents his case with remarkable clearness. Although it does seem that the author but covers a certain portion of the cases, it will certainly form a most valuable addition to the already exhaustive literature on the subject.

M. E. Pusitz, M.D.

## AUXILIARY

### PRESIDENT'S MESSAGE

Dear Auxiliary Members:

It was a privilege and an inspiration to attend the fourteenth annual meeting of the Woman's Auxiliary to the American Medical Association, held in Kansas City, Missouri, May 11, to 15. I was very glad such a large delegation from Kansas attended.

Our national president, Mrs. Robert Fitzgerald, has requested that the state cooperate with the national officers and standing committees by contacting them to assure us a clearer vision of the national organization.

I wish each auxiliary member a pleasant vacation.

Mrs. L. B. Gloyne.

### ANNUAL REPORT FOR 1935-36 OF THE KANSAS MEDICAL AUXILIARY

Looking back in contemplation of the accomplishments of a year's work, I find it far short of the plans for achievement that I entertained at the beginning of the year. I have enjoyed very much my work and associations with the officers and members of the Kansas Medical Auxiliary and feel that we have made some advancement in auxiliary work in ever-increasing interest and friendships that have been made. The members of the executive board have been splendid in their work and their response to my requests.

Though our membership shows a decline, it is through tardiness in making returns to our state treasurer, who has been untiring in her efforts to bring Kansas dues in promptly. Later reports brought our membership to 244.

Organization work shows small returns on great effort expended. Since we must have an invitation for organization through the Medical Society, we must await the pleasure of the men, most of whom have ignored all organization correspondence. However, we have one new county that organized in September, but due to the serious illness of their president, their work was never begun. Another county has all plans made for organization in the fall and have elected their temporary chairman.

Our state has had as an incentive this year, the national meeting in Kansas City, and our plans have been to gain all possible information and enthusiasm from our sister organizations. It has proved something definite and worthwhile for which to work.

The Kansas Medical Society through its Executive Secretary prepared large packets of material explaining fully "Socialized Medicine." The packets were distributed through the auxiliaries and all high schools of the state, that authentic material might be available to schools and clubs for debate and study.

A cancer control program, with national speakers, was held over the state during the last week of March. Five districts of the state were visited and meetings held so that all parts of the state might have opportunity to attend. Two meetings were held in each place, a scientific meeting in the afternoon and a public meeting at night.



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The Advisory Council and the Executive Board of the Auxiliary met in Wichita March 31 to discuss plans for a program to be incorporated in the work of the auxiliary next year. That is counted as one of the outstanding gains that our Medical Society has recognized us as capable and has shown interest to outline a definite work to be accomplished by us. We are very grateful to The Journal of the Kansas Medical Society for the space furnished us for reporting our activities.

Questionnaires were sent out from the Society central office and returned there to be kept on file for the purpose of determining the outside contacts of our auxiliary members in civic, health, church, school, and study groups.

As president, I received invitations from and visited three of the county auxiliaries. One other invitation could not be accepted at that time because of home duties.

Reports from all auxiliaries have been good, showing fine work being done. Three counties report only social activities but feel that as their organizations attain age and friendships are strengthened they can attempt more definite aims. All auxiliaries report at least one meeting with their county medical society. Most of them have studied the contemplated Basic Science Law and the material on socialized medicine.

The radio broadcasts of the American Medical Association have been enjoyed and reports received of notices published for the public.

One county solicited their newspapers and received promises from three to print articles from the clip sheets of "Hygeia." "Hygeia" subscriptions have been given to several schools and exhibits and posters for "Hygeia" featured.

One county auxiliary sponsored a crippled girl, helping her secure funds for a musical education, and another auxiliary is building a loan fund for medical students.

Mrs. Gloyne, our new President for 1936-37 is vitally interested in auxiliary work and is planning many things for us.

(This report was prepared and mailed in April to be filed with National officers as required and was read May 13 before the general session of the Woman's Auxiliary to the American Medical Association.

Our state meeting was held, May 10, at the Gould Hotel, Kansas City, Kansas. The Executive Board met at 10:30 a.m. with five officers, six committee chairmen, and six past presidents present.

Mrs. Rogers N. Herbert, National Auxiliary President; Mrs. Herbert L. Mantz, General Chairman of Convention; and Mrs. J. H. Crampton, State President of the Idaho Auxiliary were our guests at luncheon served at 12:30. Mrs. Herbert gave us a most interesting talk bringing us the plans and purposes of the Woman's Auxiliary. She is a charming and gracious person with an infectious enthusiasm for Auxiliary work.

At 1:30 p.m. we held our general session with interesting reports from each county auxiliary, report of nominating committee, election and installation of new officers.

Our hostesses, the ladies of Wyandotte County Auxiliary entertained us at 4:30 p.m. with a most enjoyable musical program and tea. The sincere thanks of the Kansas Medical Auxiliary goes to these lovely hostesses for their kindness to us all.

May I take this opportunity to thank my Executive Board, county presidents and all auxiliary members for their loyal support during my year as President of the Kansas Medical Auxiliary. I appreciate the honor you bestowed upon me and may I bespeak for my successor, Mrs. L. B. Gloyne, the same love and kindness I have enjoyed.)

Mrs. Milton O. Nyberg,  
Retiring President.

## A.M.A. AUXILIARY MEETING

The Kansas Woman's Auxiliary confined the activities of their annual meeting to one day, following the example of The Kansas Medical Society.

Meeting primarily for the transaction of necessary business, the ladies of the Wyandotte County Auxiliary made the day one of pleasure, as well.

The day's activities began at the Gould Hotel at 10:00 A.M. Sunday when the Board met in formal session to receive the reports of the elective officers and standing committees.

At one o'clock a delightful luncheon arranged by the Wyandotte County Auxiliary was served at the Gould Hotel. After luncheon the delegates convened. At this meeting reports from the various county auxiliaries were read and officers for the ensuing year were elected. Names of officers are as follows: Mrs. L. B. Gloyne, president; Mrs. R. W. Urie, president-elect; Mrs. C. L. Williams, 1st vice president; Mrs. E. F. Clark, 2nd vice president; Mrs. W. H. Young, secretary; Mrs. F. E. Coffey, treasurer. Mrs. R. W. Urie and Mrs. Cyril Black were delegates to the A.M.A. meeting.

Following the delegates meeting officers, delegates and visitors were entertained at a musical tea with the Wyandotte County Auxiliary as hostesses.

At the luncheon we were honored by the presence of our National President Mrs. Rogers N. Herbert, Nashville, Tennessee, who spoke inspiringly and constructively concerning auxiliary affairs.

The rest of the week was taken up with national affairs which will be reported from national sources.

## PRESIDENT'S ADDRESS

(Presented by Mrs. L. B. Gloyne, Kansas City, at the meeting of the Kansas Auxiliary on May 10.)

Members of the Kansas Medical Auxiliary, allow me to take this opportunity to express my appreciation for the confidence you have placed in me by electing me your president. I wish to compliment Mrs. Nyberg and her officers on the accomplishments made during the last year. It is with pride I mention our past presidents who through their wisdom and sacrifices have added strength and nourishment to the growth of our present auxiliary.

There never was a time in the history of medicine when there was a greater need for an intelligent, well informed, and energetic auxiliary. Truly, the methods of the practice of medicine of the past are being questioned and undoubtedly some changes are maturing. Each county auxiliary should have a definite program educating its members on the attitude of the medical profession to such problems as, socialized or state medicine, basic





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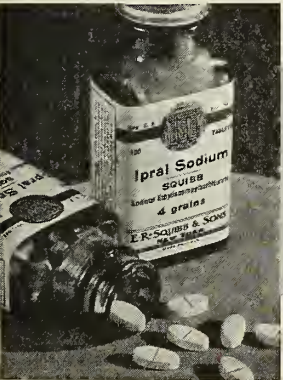
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If the auxiliary expects to be the liason officer between the profession and the public, it will first be necessary for us to greatly strengthen our present number and to adopt as our goal, an auxiliary for every county society in the state. This goal would not be so difficult, if each county auxiliary would set about definitely and promptly to meet with and form an auxiliary in each county adjacent to themselves, of course it would be necessary to get the approval of the adjacent county medical society.

There are many definite activities that an auxiliary can enter into, but I believe, that these activities should be restricted in the main, to the problems before the state at this time.

The members of the auxiliary should be encouraged to accept offices in certain lay organizations such as, the parent-teachers association and study groups and, after accepting such offices, they should use their influence to spread the gospel.

One of the programs that is constantly being sponsored by the American Medical Auxiliary is to have every member of the auxiliary reading "Hygeia" and also for the members to see that this magazine has a wide circulation among the doctors, dentists, school teachers, educators and the general lay public. A more wide spread use of this magazine will help materially in educating the public on scientific medicine; and it will help the public to distinguish between a real physician and a "quack", it will help them adopt certain health habits and educate them to approve such public health principles as vaccination against smallpox and immunization against diphtheria, and it will also help in giving the public a proper understanding concerning fake and patent medicines, for which the public is annually squandering millions of dollars.

It will not be the function of the auxiliary to carry on an extensive unified program, the results of which can be tabulated and easily calculated. But rather the work

must be more like that of the mothers of this country. Each member in her quiet individual way must do things that will never be charted; but the results will be just as certain, as the results that proper motherhood have on a nation.

In conclusion let me appeal to you for your most hearty cooperation during the coming year. May you always be willing to offer constructive criticism, but be sparing with any remarks which might retard the growth of our auxiliary and defeat the purpose for which we are organized.

I will at all times be sincere in what I do with a steadfastness upon which you may always rely and with a strength of character to heed and profit by your criticism.

I sincerely hope that every doctor's wife in the state of Kansas may become better acquainted with every other doctor's wife during the coming year, as this will make the solution of our problems less difficult. There is a common problem, a common ambition and a common sense of achievement in our group that should make an excellent plane on which we can meet and enjoy ourselves and in the end improve the quality of medical services given to the people of our beloved state of Kansas.

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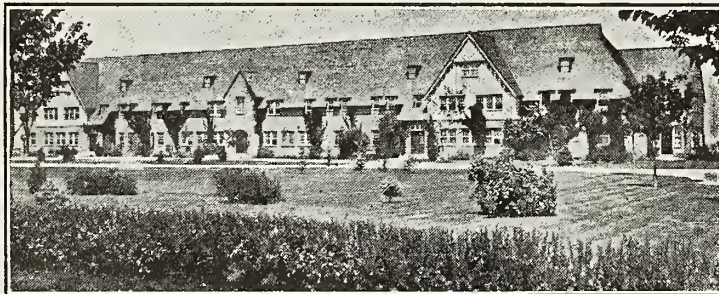
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Superintendent



# THE JOURNAL

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### OSTEOMYELITIS OF THE SPINE\*

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and

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and

J. L. LATTIMORE, M.D.\*\*\*\*

MICHELE GERUNDO, M.D.

Topeka, Kansas

#### INTRODUCTION

That this particular subject has been very much neglected in the past is quite evident from a perusal of the more recent literature. But even Hahn in 1895, who had seen only one case, concluded that osteomyelitis of the spine was similar to osteomyelitis elsewhere, was more frequent than believed, was difficult to diagnose, and carried with it a serious prognosis. In 1932, one of the authors made a survey of some twenty cases of osteomyelitis of the spine which had been well worked up in the Steindler Clinic; more recently a colleague made a more complete survey and noted some sixty cases seen in this institution. In fact, osteomyelitis of the spine formed 3.94 per cent of all cases of pyogenic osteomyelitis admitted to the University of Iowa hospitals. Wilensky reported nine cases in 1929; and found an incidence of 1.5 per cent of all cases of pyogenic osteomyelitis in the Mt. Sinai Hospital. Klein reported sixteen cases seen in the same institution from 1926-1933. Smith reported seventeen cases seen during a similar period in the New York Orthopedic Hospital and Dispensary. Caldwell recently reported nine cases of his own seen at the Shriner's Hospital at Shreve-

port. In the last three years, in a rather small orthopedic clinic, one of the writers has seen four definite cases, and two probable cases of osteomyelitis of the spine. Yet in 1903, only eighty-five cases were reported in the literature; and even to date, Kulowski states that there are only some three hundred cases considered in the entire literature, which includes his own large series of 102 cases. It is at once evident from this that either there is a sad neglect on the part of the profession to report these most interesting cases, or due to the difficulties of diagnosis the condition is being overlooked. As a result, the treatment of this condition is an unknown and variable quotient, and varies with the individual, the clinic, and the country. This lack of uniformity in a disease which in other situations has a definite mode of attack at least with groups and clinics, has led the authors to make a complete and exhaustive survey of the problem.

#### HISTORICAL

According to Mathieu, Lannelongue reported the first case of osteomyelitis of the spine in 1879. The first definite contribution to this subject, however, was made by O. Hahn, who reported a series of 661 cases of pyogenic osteomyelitis among which there was but one case of osteomyelitis of the spine. In 1896, Makins and Abbott considered this problem; and they were followed by Daverne who made a report in 1903. It was during this year that Grissel collected eighty-five cases in the literature. In 1906, Donati collected fifty-five cases from the European literature, adding a case of his own. Goebel, in 1910, described the meningeal complications of the disease. Volkmann collected eighty-seven cases from the literature in 1915, and added four cases of his own. Most of the earlier work was therefore done in European clinics. In 1917, Ashurst and Wadworth reported a post-mortem exami-

\*From the service of the Kansas Crippled Children Commission.

\*\*Orthopedic surgeon, Kansas Crippled Children Commission.

\*\*\*Roentgenologists, Christ's, Stormont, St. Francis Hospitals, Topeka.

\*\*\*\*Pathologists, Christ's, Stormont, St. Francis Hospitals, Topeka.

nation of a case. Since then numerous contributions have been made in practically all countries of the world, but notably by Audrien and Lemarchel, Dudden, Eichel, Frazer and McPherson, Grissel, Gundermann, Henle, Kermisson, Mathieu, Tubby, and others. The earlier writers considered the more acute and more virulent cases, most of them being recognized at autopsy only. Peculiarly enough, most of these earlier cases had a different age incidence and a different incidence of involvement than the more recent cases. Steindler, in 1929, made a most comprehensive survey of the preceding literature in his text-book dealing with diseases and deformities of the spine and thorax. Since the earlier cases dealt with those having a high mortality, it is not surprising to note the bravery with which the earlier surgeons attacked the problem along the lines of radical surgical intervention.

In 1921, Kidner published a report considering the less virulent forms of osteomyelitis, and this work was later followed up by Smith who considered a series of cases published in 1933. Stressing these less virulent forms, he called them benign forms of osteomyelitis of the spine. In recent years, almost in every clinic, cases of osteomyelitis of the spine are on record, and it is not surprising to note how much more frequently the diagnosis is now being made, with the better understanding of the pathology and roentgenology of the disease. Wilensky, Lazarus, and Klein have reported on the cases seen in the Mt. Sinai Hospital in New York City. Further reports by Steindler, Smith, Patton, Caldwell and others are beginning to make an impression on American medicine. In 1936, Kulowski made a rather complete report on a series of 102 cases, of which sixty cases were seen in the University of Iowa Hospitals.

In spite of the increased interest in the subject, there is a sad confusion in the literature both with respect to the incidence, the prognosis, and the treatment of the condition.

#### INCIDENCE

Statistics with reference to the incidence of osteomyelitis of the spine must be entirely revised. It is to be noted that where the clinician is on the lookout for this condition, the incidence of the disease is increased. As a result in the Iowa series, the incidence is 3.94 per cent of all cases of pyogenic osteomyelitis. This is a much higher incidence than is found elsewhere, but then the incidence of osteomyelitis

in general seems to be high in Iowa, which may be due to the fact that this is a center for a large agricultural region. The writers have likewise noted a high incidence of osteomyelitis in Kansas, which is also largely an agricultural state.

Steindler, in summarizing the previous literature, stated that this condition is mainly observed in the growing age, from twelve to fifteen years, the ages in which the secondary centers of ossification of the spine make their appearance; he further stated that cases after the age of thirty-five are very rare, and that the majority of the cases occurred in the second decade. Yet his pupil, Kulowski, made the very opposite statement, namely, that it is not a disease of the growing period, and that the majority of cases occur after the third decade when the spine is completely formed. He further stated that the condition has not been reported in infants, yet Klein reported a case of an infant two months old with osteomyelitis of the spine. Further analysis of the statistics of Kulowski shows that forty-seven of his cases occurred during the second and third decades as against ninety-eight cases in all decades; this would contradict his contention in the body of the report. Lazarus, in an analysis of cases reported from several clinics, noted that the majority of cases occurred in the second and third decades. Yet Klein, from the same clinic, noted that most of the cases seen in this institution were in decades beyond the third. Caldwell's cases grouped mainly in the second and third decades. In analysing all of the cases noted by the observers quoted, the authors have noted that the condition may occur in any decade, but there is a preponderance for the second and third decades. Most writers do agree that the sex incidence is 2:1 in favor of males.

TABLE I

Age	Donati	Daverne	Makins & Abbott	Mt Sinai	Kulowski
1-10	15	12	5	2	1
10-20	24	6	11	....	32
20-30	11	9	3	3	15
over 30	2	....	....	4	50

#### ETIOLOGY

The organisms reported in the literature as the direct casual agents in osteomyelitis of the spine are the following: *Staphylococcus aureus* and *albus*, *streptococcus pyogenes*, *bacillus*



typhosus, micrococcus tetragenus, B. Paratyphosus A., B. Perfringens, streptococcus viridans, pneumococcus, types I, III, and IV, and the Friedländer Bacillus. In six of the seventeen cases reported by Klein, in one out of four cases of the authors, in thirteen cases out of eighty-six reported by Kulowski, the blood cultures were positive.

The part that trauma plays in the production of an osteomyelitis in general, and of osteomyelitis of the spine in particular, is not quite clear although it is undoubted that it does play an important role. It can lower the resistance of the area involved and therefore predispose to the localization of microorganisms. Robertson, and others have shown that trauma certainly does play some part in the localization of an osteomyelitis lesion in the long bones; it certainly seems to play some similar role in the small bones even though the anatomical situation is different. It is known that osteomyelitis may follow a fracture or contusion without any external wound; whether this is the localization of a new infection or a lighting up of an old latent process is problematical. Steindler has pointed out the difficulties encountered in attempting to prove an osteomyelitis as the direct result of a trauma. Dudden, however, has shown undoubted cases of this type.

The clinician usually classifies the bony lesions into direct and hematogenous forms. The direct form may occur post-operatively, or from infected decubiti, or from a focus of infection in the vicinity which spreads to and involves the vertebrae by direct extension. The direct type is rather rare, and the one usually encountered is of the hematogenous type. This may begin primarily as a spinal lesion, or it may be a metastasis from a bony lesion elsewhere. While the large majority of the cases are primarily spinal, metastatic lesions must be watched for in all cases of multiple osteomyelitis, with vague symptoms referred to the back. The metastatic type will form the subject of this thesis.

#### ANATOMICAL DETAILS

The text-book anatomy need not be considered in this discourse. Suffice it to note that the vertebra is formed chiefly of cancellous bone. As Wilensky has pointed out, the body is composed of exceedingly light spongy tissue, having a thin coating of compact bone on its exterior, which is perforated by numerous

openings thru which the bloodvessels enter and leave the bone. On the other hand, the arch or posterior portion of the vertebra has a rather thick covering of compact tissue for its size, the amount of cancellous bone present in its interior being negligible, or even entirely absent.

The periosteum of bone is really absent in the vertebral column, and this is due to its mechanical structure. In order to produce a flexible and yet a rigid central supporting unit, nature has had to unite a series of small bones with a series of complicated joint interlockings, typical for the spine, and in fact for each portion of the spine. The ligamentous apparatus must be very efficient and heavy; as a result, these ligamentous insertions cover almost the whole of the vertebral surface, both on the inner and outer sides. Where there is no ligamentous attachment to the bone, the tendinous insertions are found. As a result, the whole surface of the bone is covered or gives attachment to the tendinous, ligamentous, and fibrous structures, and this unit takes on the function of a periosteum, as it were. It must be remembered that all of these structures are closely related embryologically, and it is therefore not surprising to note this interrelationship of function. The particular components of this bony envelope to the vertebral bone govern the particular course which collections of pus may take, and they possibly offer a reason why the pus does not remain localized long to the bony structures but immediately form extra-osseous abscesses.

Much work has been done in recent years with reference to the peculiarities of the vascular supply of bone. Lexer, Tuero Hobo, Kuliga and Turck, and others have well worked out the vascular supply of the long bones, but the same is not as true of the short bones. However, certain details have been developed, the interpretation of which must be made with great care. Wilensky states, "The blood supply of the bodies of the vertebrae is larger than that for the pedicles and the laminae. There is a very abundant vascular arrangement for the vertebral bodies arising by a large number of vessels corresponding roughly in number with the number of spinal segments. These are derived from neighboring large main trunks—the basilar in the neck, the intercostal and other branches in the thorax, and the lumbar vessels in the loin. There is a double arrangement—corresponding to the external aspect of the vertebrae and to the interior of the spinal canal.

One group of vessels perforates the bodies of the vertebrae from the outer side and break up into a network which supplies the appropriate parts of the bone with blood. These finally anastomose with the network derived from those branches which, having entered the spinal canal, ramify in its interior. Those on the exterior of the bone follow no readily classifiable scheme. The arrangement in the interior of the spinal canal follows the following plan.

"The lateral spinal branches enter the spinal canal through the intervertebral foramina and divide into two branches. Of these, one passes along the roots of the nerves to supply the spinal cord and its membranes, anastomosing with the other arteries of the spinal cord; the other divides into an ascending and a descending branch, which unite with similar branches from the artery above and below, so that two lateral anastomotic chains are formed on the posterior surface of the bodies of the vertebrae near the attachment of the pedicles. From these anastomotic chains branches are given off to supply the periosteum and the bodies of the vertebrae, and to communicate with similar branches from the opposite side; from these latter small branches are given off which join similar branches above and below, so that a central anastomotic chain is formed on the posterior surface of the bodies of the vertebrae.

"The blood supply of the arches—the pedicles, laminae and processes—is very much less abundant than that of the bodies and, except for some small perforating branches which are derived from various muscular arterial branches in their immediate neighborhood, the greater part of the blood supply proceeds from the terminal anastomosing ramifications of the network formed from the spinal arteries in the interior of the spinal canal."

#### PATHOGENESIS

As has been noted as far back as 1895 by Hahn, osteomyelitis of the spine does not differ materially in its pathogenesis from osteomyelitis of bone elsewhere in the body. There is a portal of entry through which organisms enter the bloodstream and bring about a bacteremia, if not a septicemia. Bone marrow, in common with lymphoid structures, is a common location for these organisms to lodge. Henle has noted the observations of Fränkel, who, in post-mortem studies obtained positive cultures from the vertebrae, of pneumococci in cases dead from pneumonia, of streptococci in cases

dead from erysipelas, pulmonary abscesses and diphtheria, of staphylococci in cases dead from pyemia. In typhoid fever, it is known that at some time during the course of the infection, the patient passes thru a bacteremic stage in which the organisms can be recovered from the blood stream. These organisms lodge in the bone marrow long after the general infection has subsided. If the resistance of the patient is great, the organisms, of course, are destroyed. Later, due to some lowering of the resistance of the area, and just what factors cause this lowering of resistance remain still variables which have not been definitely determined, these latent areas are suddenly fanned into flame. Factors which have been considered by many authors are: Muscle strain as stressed by Keen; fatigue; the presence of an old (or a new) fracture as considered by Monisset; the scar of a tuberculous lesion as considered by Finlayson; trauma of any type as considered by Steindler. Bondet has even considered sudden chilling, as the use of an ice bath, as a possible factor in fanning into flame an osteomyelitis, especially due to the typhoid organisms. Bonome has noted a thrombosis of numerous vessels in the Haversian canals in the ends of the fragments of experimental fractures in rabbits. As a result of this thrombosis, necrosis is produced at the line of fracture. This is now an old finding, and the work has been repeated by many investigators. Therefore, this work would tend to show that in all types of infections, from various organisms, bacteria do circulate in the blood stream and lodge in bone marrow, including the bone marrow of the spine. Later due to some factor or trauma, there is a lowering of resistance in some part of the mechanism, and this allows the organisms to multiply and exert their destructive effect. Clinically one uses the term bacteremia to denote the circulation of organisms in the blood stream, but these organisms are not multiplying or causing any toxemic effect. Septicemia denotes the circulation of organisms in the bloodstream, which are multiplying and which are causing a toxemic effect. The pathologist dislikes this differentiation because these very organisms are difficult to grow on blood media. He believes that the focus of infection is continually spraying these organisms into the bloodstream rather than that they are multiplying in the bloodstream. He, therefore, believes that the differentiation between a bacteremia and a septicemia



depends upon the dosage and virulence of the organisms shot into the bloodstream. In all cases of septicemia, one must rule out spinal involvement, considering it either as a focus or the result of a focus elsewhere.

Wilensky has adopted a somewhat different concept. He considers acute hematogenous osteomyelitis a metastatic lesion which occurs during the course of a bacteremia, the latter resulting from an acute bacterial lesion on the surface of the body, which forms the portal of entry for the infection. His conception of the surface of the body includes not only the skin, but also the entire mucous membrane of the alimentary tract, the genito-urinary tract, etc. Therefore, surface lesions include not only furuncles, carbuncles, etc., on the skin but also lesions in the tonsils, and in other lymphadenoid collections lying in the mucous membrane of the pharynx, as well as those which occur in Peyer's patches. He considers that the first step in the pathological history is the formation of an infected thrombus lying in the original area of infection, and communicating at some point with the freely circulating blood. From this thrombus organisms may be discharged into the blood stream or small pieces of the thrombus itself may be dislodged into the blood stream. These potential emboli become lodged in the vascular network of various parts of the body and here give rise to secondary lesions of an inflammatory nature. Bone tissue has a peculiar vascular structure which seems to make it particularly prone to receive these thromboemboli. These peculiarities have been studied by Lexer, Tuero Hobo, Robertson and others. Robertson and his co-workers have shown that the susceptibility to these inflammatory lesions in bone is increased during the period of growth when there is a distinct epiphyseal line.

Therefore, Wilensky considers this thromboembolic phenomenon as the fundamental basis of the pathogenesis of this condition and considers trauma an accessory factor only. Most of the other observers do not agree with the placing of trauma as a simple accessory factor. Be that as it may, the essential nature of the pathologic process that develops in this secondary lesion is a thrombo-arteritis or thrombophlebitis. Even if the conception is taken that the pathogenic germs reach the bone and later become active, they give rise to the usual inflammatory phenomena and, of course, produce also a necrosis of the vasa endothelia.

This results in a thrombosis. The more widespread the lesion, the greater the thrombotic effect of more numerous vessels. There is, therefore, a necrosis of tissue not only due to the toxins from the inflammatory reaction but but also due to the cutting off of nutrition to certain portions of the bone. If the necrosis is extensive there is the formation of sequestra. This, of course, is only possible when the infection is acute and the introduction of toxins very massive. In the vertebra several factors are at once understood which explain the infrequent finding of sequestra; in the first place due to the abundant vascular supply as has been described, the blocking of an area of bone is not usual. Moreover in the majority of cases, the toxins are attenuated and the bone responds with proliferative phenomena resulting in the formation of a granulation tissue which tends to circumscribe the process.

#### PATHOLOGY

Just as there is much confusion as to the statistics with reference to the incidence and localization of osteomyelitis of the spine, so the pathological anatomy seems to be more or less confusing to judge from the differences in the views of various writers. Certain details, however, are definite.

Osteomyelitis is an inflammation which takes place in bone, and it assumes special characteristics only because of the peculiar structure of the bone. The inflammatory changes differ in no wise from inflammatory changes in other tissues. Since the subject of this thesis is the hematogenous form, the germs reach the bone via the bloodstream, and therefore they reach that portion of the bone which is more abundantly supplied with bloodvessels. In the long bones, the localization is in the epiphyseal end of the metaphysis, since not only are the end capillaries in this region, not only is there a slowing of the bloodstream, but the presence of the ununited epiphyseal line provides a means for trauma to act and produce a focus of lessened resistance. It is not surprising to note, therefore, that osteomyelitis of the long bones is essentially a disease of childhood. On the other hand, in the spine, it has been noted that there is a lack of true epiphyseal growth of the vertebrae, that there is a persistence of the rich cellular bone marrow, and there is a sluggish voluminous blood supply. These facts make less surprising the fact that in contradistinction to osteomyelitis of the long bones,

in the spine the condition is just as frequent (if not more frequent) in adult life as it is in childhood. The voluminous blood supply aids in the early transport and localization of organisms (Fränkel) in the bone marrow, or makes more possible the occurrence of thrombo-embolic phenomena (Wilensky) in bacteremic conditions and acute infectious diseases.

However, because of the anatomical and vascular conditions of the vertebra, the localization of the inflammatory process or the thrombo-embolic phenomenon, does not follow a particular plan such as has been worked out by Wilensky for the long bones. The lesion may be of any size and shape, the extent and size of the lesion being determined by the vascular collateral circulation. The earlier writers considered most of the cases as involvements of the arches of the vertebrae, whereas the later statistics (Kulowski) would consider the bodies as being the most frequent site of origin of the infection. Any part of the vertebra, however, may be involved, and more careful and complete statistics must be gathered before any statement as to the incidence of involvement can be truthfully given.

TABLE II

Vertebrae Involved	Daverne	Makins & Abbott	Mt Sinai	Kulowski
Cervical	7	3	2	8
Dorsal	12	5	2	31
Lumbar	17	10	4	51
Sacral	5	3	1	9
Coccyx	....	....	....	3

However, recalling the fact that the vertebral body not only has the more abundant circulation, but also has the more abundant bone marrow, one would not be surprised to find a higher incidence in the vertebral bodies. Using roentgenology as an aid, it has been noted that the first changes are really noted in the intervertebral disc. The fact that Donati gives an incidence of fifty-six per cent of the cases involving the arches, twenty-five per cent involving the vertebral bodies, and diffuse lesions only in nine per cent yet Klein noted that in 62.5 per cent of his cases, vertebral body involvement occurred, would indicate that thorough revision of all the figures is necessary. In contra-distinction to Donati, Kulowski found that in his large series of cases (102), the lesion was most often a diffuse one. Practically all of his cases showed involvement of the bodies or the bodies and posterior processes combined. More than one spinal segment was

affected as a rule, at least in the later stages of the disease. He explains this on the basis of the anatomical and architectural continuity of the cancellous structure in the body and posterior portion of the vertebra. He notes that this structural continuity is reflected in the horizontal and vertical trabecular systems. Extension to contiguous disc and vertebral body is further aided by the absence of the circumferential cartilage plate and the lack of a definite protective subchondral layer of compact bone as seen in normal joints. He considers the lesion as a disease of the vertebral body and their contiguous discs. Mayer has reported a case of osteomyelitis affecting the intervertebral disc alone. Although to date, this is indeed a rare lesion in pyogenic osteomyelitis, one can not be too sure as to its rarity since the diagnostic difficulties are so great. Certain it is that in typhoid osteomyelitis, there is the involvement of the intervertebral disc which ultimately disappears leaving a synostosis between the adjacent vertebrae.

The object of the foregoing is not to cast destructive criticism on the splendid work of these investigators, but rather to show how little uniformity exists between the various clinicians and pathologists as to the actual morbid anatomy, which in most conditions there is a uniformity of opinion at least with reference to these facts.

#### CLASSIFICATION

Classifications differ with clinicians and with pathologists, but yet a working classification makes less difficult the comprehension of the pathology of the condition, which leads to better roentgenological interpretation, clinical investigation and diagnosis. The earlier writers on this subject considered only the more acute fulminating form since most of their studies were based on autopsy findings. In 1921, Kidner considered the less virulent forms of osteomyelitis of the spine, and in 1929, Steindler made a rather complete survey of the subject, and considered acute, subacute and chronic forms of the disease. While this description has merits from certain angles, it may confuse the picture for the student. Especially must this be true since the paper published by Smith in which he speaks of benign forms of osteomyelitis of the spine, as he terms these chronic forms. As will be pointed out in the clinical discussion, these cases are at times anything but benign. All inflammatory processes



may be considered under the heads of acute, subacute, subchronic and chronic forms of inflammation, but it does not mean that the one can not turn into the other. In other words, an osteomyelitis of the spine may be ushered in with severe symptoms, high fever, etc., and yet the patient may not die; the condition may become subacute and then chronic. There are forms which begin as a chronic form of inflammation, and due to trauma, or some other factor, there is a lessening of resistance in the locality, due to which the inflammatory process is lit up into an acute one, from which the patient may die. There are forms of chronic osteomyelitis, which begin and end as such, and it is believed by the authors that these forms have certain essential pathology, which at times may be shown in the roentgenological studies.

While the above classification, therefore, is useful from certain viewpoints, it is not the final word in classification. Since the roentgenological investigation is becoming a unit more and more powerful in diagnostic work, it does seem to the authors that a classification dependent upon factors which may show up in the film would be a more serviceable one. The reactive phenomena brought about by the osteomyelitic process may be divided into three principle groups: An osteomyelitis rarefaciens or inflammatory osteoporosis, an osteomyelitis ossificans or osteosclerosis or inflammatory hyperostosis, and finally an osteomyelitis suppurative. This classification, of course, can only be applied to the chronic forms of the disease. The hyperacute picture, which is in reality (according to the more recent statistics) relatively rare, is essentially one of necrosis due to the action of the toxins and the thrombosis of the bloodvessels. Although the authors consider the previous group as forms of chronic osteomyelitis it must not be forgotten that the condition may have an acute, subacute or subchronic stage, or it may begin and end as a chronic stage. In addition, one must admit that there is a sclerosing type of osteomyelitis of the spine, similar to the sclerosing type of osteomyelitis in the long bones, as described by Garré. Many of the chronic forms of osteomyelitis do not produce suppuration, *per se*, but do produce a peculiar granulation tissue around the involved bone. If this granulation tissue is present in great amount in certain regions, as in the central canal or surrounding the nerve roots, compression symptoms or root symptoms

may complicate the picture.

Although the purulent form of osteomyelitis of the spine seems to have occupied the attention of the world, due to the serious nature of the complications which result therefrom, and Kulowski states suppuration occurs in the vast majority of cases, the osteomyelitis rarefaciens is the most common type met with according to one of the authors. In this type, there is a progressive rarefaction of the bone, which is followed with the appearance of granulation tissue, which slowly replaces the bone from the center to the periphery. This is a young vascularised connective tissue, which must not be confused with the specific tissue due to syphilis or tuberculosis. When this granulation tissue formation is well advanced, ulcerations will appear over the bony surfaces, which surfaces are covered with the granulating vegetations. Pathologists have given the name *caries simplex* or *caries sicca* to this form, to denote the absence of pus. The very nature of the spongy bone, and the peculiarities of the blood supply tend to develop a carious form of destructive necrosis. Sequestration is rare due to voluminous blood supply, but at times, the process is acute or subacute, and in such stages, sequestrae may form, of small size, composed of the thin outer compact layer and that portion of the body formed by the ossification of the secondary epiphysis. The term *caries necrotica* is sometimes given to this process. These sequestrae may eventually work their way into the visceral compartment and be coughed up or vomited up, as occurred in one definite case in the authors' series.

#### MORBID ANATOMY

The direct infections, naturally, cause an ulcerative surface lesion, whose locality and depth depends upon the locality and the nature of the infectious agent and the duration of its action. In the hematogenous type, as has been indicated, the type of lesion is very variable; it may be destructive and ulcerative; solitary and localised. It may affect any portion of the vertebral unit, but most frequently seems to begin in the disc. Since it is a diffuse lesion, it soon spreads from here to involve the adjacent areas. Therefore, the infection may be in the disc alone, in the disc and contiguous portions of the vertebral body, or even in the subperiosteal area anywhere in the vertebral unit. The primary focus is believed to be in the bone marrow (Kulowski), and

since this is most plentiful in the vertebral bodies this is where it locates, or it may begin in the disc. The lesion may occur primarily in the posterior intervertebral joints or the facets, according to the recent pathological and roentgenological studies but usually these are secondary manifestations. At times, multiple small foci are present, which may be of different durations. These are noted in the roentgenological film, with small areas of increased density around them, which give evidence of eburnation. In contradistinction to other diseases, in spite of the destructive process, much time is required for the complete disappearance of the cartilage plate. Where the invasion of the spongiosa is most rapid, collapse of the vertebra may occur. Condensation, proliferation, and bone production are characteristics of the condition, and may be explained on the basis of the voluminous and sluggish circulation of the area. Although, as has been stated, the focus of infection may appear in any portion of the vertebral unit, small localized foci in the posterior portions of this unit are less common than formerly believed according to the modern statistics, that is, as a primary focus. Of course, since the lesion is a diffuse one, the infection may spread to and involve the posterior portions of the vertebra.

Pyogenic osteomyelitis of the spine exhibits most variable pathological manifestations, but one of the important attributes of the condition is the regenerative changes that are present, even in the face of most rapid and serious destruction. The proliferative phenomena result in the formation of granulation tissue which tends to circumscribe the process and inclose the sequestrum. The osteoblasts, which are principally located in the marginal zones of the bone, near the periosteum, promote the formation of new bone. As a result, peculiar exostoses or bridges of bone may extend from one vertebra to another, which may be mistaken for hypertrophic changes of an arthritis deformans. New bone formation is often very extensive and results in fusion of the vertebrae, even relatively early (Kulowski). However, this fusion of the spine is not always as definite as one might believe from the roentgenogram. One of the authors has had two such experiences—one case at autopsy and one at operation showed motion between two vertebrae, considered as fused from the roentgenological picture.

Owing to the fact that there is no true periosteal layer, the pus soon finds an exit from the bone, and this in turn keeps the area of involvement down to a minimal size. In fact, one may have a huge abscess, and yet search with difficulty for the actual bony lesion. Also, due to the tendinous and ligamentous attachment being the covering of the bone, the pus soon makes its way along the fascial planes of the region. This forms one of the most dangerous complications of the disease.

#### COMPLICATIONS

One of the most characteristic features of that form of osteomyelitis of the spine most readily recognized is suppuration and abscess formation. The amount of pus produced may be out of all proportion to the size of the bone lesion as has been noted.

These pus collections will track along the fascial planes of the body, depending upon the lines of least resistance. This may confuse the picture very greatly in cases difficult to diagnose. The authors well remember a case of osteomyelitis of the spine in which the patient entered the service because of a draining sinus in the region of the left trochanter. X-rays of the femur and pelvis were entirely negative for bony pathology. Injection of lipiodol into the sinus, allowed of visualization under the x-ray and it was found that the lipiodol tracked upwards to the region of the upper dorsal vertebra, where the lesion was discovered. In a general way, however, the direction which the pus will take can be predicted from the location of the lesion. Steindler points out that in general there are three principle routes of travel for the pus. (1) An anterior route with formation of an abscess under the periosteum entering into the mediastinum. (2) A posterior route, toward the dura, causing pachymeningitis anterior, and medullary compression. (3) A lateral route between the bodies and transverse processes.

In the cervical region, the thrombotic process starts in the vertebral body, and this is agreed upon by even the older statistics. A prevertebral abscess is formed, which is really retropharyngeal, and it may track upwards to the base of the skull, and downwards to the mediastinum if it is not drained. If an osteomyelitis affecting the ventral surface of the transverse process is encountered, the pus tracks forward between the longus colli muscles and the anterior scalene muscles. The abscess may finally



point in the posterior triangle of the neck. If it involves the posterior surface of the transverse process, or the posterior arch of the vertebra, or the spinous process, the pus may burrow even more posteriorly in the back of the neck. While in a general way these pus collections follow the fascial planes of the body, they do not do so as completely as do the tuberculous collections, because in osteomyelitis the formation of pus comes on so rapidly, in comparison with the slower type seen in tuberculosis. Therefore, the types of spread do not always follow distinct anatomical spaces. The retropharyngeal abscess may even track down so far as to form a psoas collection. The more posterior collections are deep seated and this must be realized in diagnosing and draining them.

In the thoracic region, involvement of the vertebral body gives rise to a retromediastinal abscess. Kulowski notes the intimate connections of the anterior longitudinal ligament with the costo-vertebral articulation and notes that this may deflect pus toward the intervertebral and intercostal spaces, localizing the abscess, and giving rise to typical paravertebral shadows in the roentgenogram. If the involvement is on the anterior aspect of the transverse process or in the pedicle, the pus tracks downwards beneath the sheath of the psoas muscle, resulting in a psoas abscess.

Where the other portions of the arch are involved, the pus may spread backwards between the layers of the deep spinal muscles. The pus may therefore lie between the angles of the ribs and the lateral and posterior aspect of the laminae and spinous processes, these abscesses being deep-seated. From a mediastinal abscess, further complications may occur such as purulent pleuritis and pericarditis. A most interesting case referred to the service of the authors was that in which the patient was treated by his family physician for a pleurisy with effusion and a pericarditis and the spinal lesion was missed until a gibbus formed in the dorsal spine.

In the lumbar region, in involvement of the vertebral bodies, the pus lies between the iliopsoas muscle and its fascia, at times the entire muscle being destroyed and replaced with pus. This may rupture to form the more extensive retroperitoneal abscesses; the same may arise when the pus directly perforates the anterior longitudinal ligament. Where the anterior surfaces of the transverse processes and

pedicles are involved, there is the formation of large extensive retroperitoneal abscesses. The latter may spread upwards to form a subphrenic abscess or laterally to form a perinephritic abscess. Small wonder that at times, as one of the authors has noted in his own experience, the condition of osteomyelitis of the spine may be diagnosed as a perinephritic abscess. Where the posterior surfaces of the transverse processes, laminae and spinous processes are involved, deep-seated abscesses are formed in the muscles of the back. Peritonitis has been listed as a possible complication of osteomyelitis of the lumbar vertebrae. Wilensky has noted that the paths of infection include (a) extension by the lymphatic vessels into the peritoneal cavity; (b) frank rupture of an abscess into the peritoneal cavity; and (c) hematogenous (metastatic) infection of the peritoneal space.

When the posterior surface of the sacrum and coccyx are involved, subcutaneous abscesses are formed. Where there is anterior involvement, the pus formation occurs in the hollow of the sacrum which may burrow downwards, forwards, and laterally, simulating the pus collections in osteomyelitis of the pelvis. Certain paths, which the pus may take can be followed out. When the lower segment of the sacrum or coccyx are involved, the pus gathers in the space between the coccyx and anus and lies beneath the levator ani muscle and the anal fascia. The pus may then make its way out of the pelvic cavity through the sacro-sciatic notch and be deflected upwards beneath the gluteal muscles, forming gluteal abscesses, or, the pus may burrow downwards to form paranal abscesses. Where the pus collections are above the line of attachment of the levator ani muscle, subperiosteal iliac abscesses are formed, which may spread upward to the crest of the ilium, forming extra-peritoneal abscesses, which may point above Poupart's ligament. Less frequently, the abscess may spread forward and downward between the hollow of the sacrum and the obturator and recto-vesical layers of the pelvic fascia. The pus may finally gather in the ischio-rectal fossa, forming an ischio-rectal abscess.

Spinal canal involvement is not as rare as one might think but statistics on this subject must be completely revised. Klein states that irrespectively of its process, the most frequent and most serious complication is that of involvement of the central nervous system. Yet

in a perusal of the literature, one meets with conflicting statistical records. For example, in a large series reported by Kulowski, there were only ten such cases in the Iowa series (102). One must agree that the mortality of cases with this complication is high—fifty per cent, or even more. Steindler notes that the extension of the disease along the spinal canal is as frequent in osteomyelitis of the body as in that affecting the arch of the vertebra. However, not all cases showing meningeal symptoms have definite spinal canal involvement, as any type of vertebral osteomyelitis may be accompanied by meningeal reaction, either in the form of a simple congestion or as more frequently occurs as a true meningitis resulting from the direct continuation of the pyogenic process. The author has on one occasion performed a laminectomy on a case that showed some meningeal symptoms and found the dura perfectly normal although it may be somewhat hyperemic. Purulent pyomeningitis is indeed a serious complication but pus may be found in the spinal canal and yet the dura intact and the cord show a hyperemia. It is a rather rare complication, as due to the particular structure of the dura, it is more probable to have a peridural abscess and compression of the cord. One of the authors has observed such a case, which, notwithstanding the extensive peridural abscess, the dura resisted the pus and no meningitis developed, the patient dying of empyema. Cases have been reported in which the extra dural abscess ruptured and escaped through one of the spinal foramina leading to the formation of an abscess external to the spine in the fascial plane between muscle bundles. In some cases a metastasis may involve the cord itself, being carried in through the collateral circulation. If the dura is perforated a picture of meningitis develops. Even so, this does not always mean the death of the patient as cases have been definitely reported where such meningitis developed and yet the patient made a complete recovery. One such case is reported in the Iowa series. As a general rule, cord symptoms in a case of osteomyelitis of the spine are due to compression phenomenon which may be caused by (a) epidural abscess, secondary to perforation into the spinal, (b) subdural abscess secondary to epidural infection—secondary to the subdural infection spinal leptomeningitis may occur and spread to involve the cerebral leptomeninges and (c) a pachymeningitis, where the changes in the

interior of the spinal canal is limited to an outpouring of inflammatory exudate and to a thickening of the tissues lying between the dura mater and the bone. The abscess and therefore the compression may come on with great rapidity in these cases in contradistinction to tuberculosis of the spine where the progress is much slower. The cord is injured chiefly through the compression and also through inflammatory edema. Septic thrombosis of the venous plexus of the spine may occur, and this so-called secondary suppurative perimenigitis is usually a secondary phenomenon to a vertebral osteomyelitis. Radiating pains may occur in these cases with nervous symptoms due to involvement of the spinal roots, which become surrounded by inflammatory tissue. In fact, Radt described a chronic form of the disease with such symptoms in which the radiating pains lasted for many years due to the formation of an ossifying perivertebral granulation tissue which compressed the nerve roots and produced severe intractable, radicular pains.

Some type of deformity is noted in osteomyelitis of the spine in the form of a mild scoliosis and even moderate scoliosis, or some loss of the physiological curves of the spine as has been noted by numerous observers. Kulowski believes that these deformities are due to limited destructive lesions, or changes in the inter-vertebral disc, or muscle spasm. In one of his series, there was a definite spondylolisthesis. Steindler points out that gibbus formation although it does occur is not as frequent as in tuberculosis of the spine in spite of the more rapid destruction of the vertebra. He explains this on the basis that if the condition is so severe as to cause collapse of the vertebra the patient is so sick that he has to immediately take to bed or the condition is even fatal. Telescoping, however, with gibbus formation is not uncommon. Kulowski noted gibbus formation in fifteen per cent of the cases.

Another complication of osteomyelitis of the spine is that of involvement of a major vascular trunk, the most common type being that of thrombosis of the iliac veins. Thrombophlebitis is mentioned by Klein. Plenz reported a case of involvement of an intercostal vein, secondarily infected from the dorsal vertebrae. Corret, Mechon, and Reny reported a case of fatal erosion of the iliac artery. Other complications are the involvement of contiguous structures as for example the sacro-iliac joints



in lumbosacral disease or rupture into the neighboring viscera which frequently occurs when the cervical or dorsal regions are involved. In cases of cervical spine involvement, there may be a direct extension into the intracranial cavity, which usually results in a fatal cerebral leptomeningitis as was reported by George and Leonard.

The roots of the phrenic nerve may be involved resulting in paralysis of the diaphragm. Retropharyngeal abscess may produce respiratory obstruction or it may gravitate into posterior mediastinum and may then possibly secondarily perforate into the pleural or pericardial cavity, or, again in the thoracic region or the cervical region the pus may perforate into the mediastinum and then secondarily perforate into the pleural or pericardial cavity. In the lumbar region there may be perforation into the intestines resulting in a purulent diarrhea or the pus may perforate into the urinary tract causing a sudden massive pyuria. Peculiarly enough peritonitis is a rare complication although there may be signs of peritoneal irritation.

The respiratory system may be involved indirectly through compression from a retropharyngeal abscess. However, it is often involved either by direct continuity from the dorsal vertebrae or through the hematogenous root as recorded by Steindler. This author states also that abscess formation is the most frequent finding in this pulmonary involvement and that this may be intra-pulmonic or central but at times it becomes extraneous by perforation into a bronchial tree. More often a subpleural metastasis develops producing a purulent pleurisy and this occurred in one of the cases treated by the authors. Bone metastases do not occur as frequently as one might expect since this is a blood born disease in the vast majority of cases. Of sixty cases in the Iowa series bony metastases only occurred in eight of them. Where metastasis does occur, however, the diagnosis is more easily made in cases otherwise difficult to diagnose.

As one would expect sinus formation is not an infrequent finding in the history of these cases, although, as a general rule, these sinuses are located in the region of the back in relation to the spine, frequently the pus may burrow through the fascial planes of the body and make its exit externally quite a distance from the original focus. This may make the location of the original focus very difficult and in these

instances the injection of lipiodol into the sinuses and the taking of x-rays may clarify the location of the disease. These sinuses may come on spontaneously or after operation and in the low back region may often be multiple. Amyloidosis is not as frequent in these cases as one would expect due to the chronicity of the lesion. Moreover in this respect also statistics must be revised because amyloidosis is not a permanent pathological change and instances of complete recovery are on record even with a generalized amyloidosis.

#### ROENTGENOGRAPHIC FINDINGS

Under this head, the statistical surveys of the past must be rigidly revised. The older statistics dealt primarily with the more acute cases or of cases of long standing; the more recent literature deal with all types or groups of cases and in earlier stages than ever considered before. Lesions which are large enough for demonstration in the roentgenogram are most usually those which involve the vertebral bodies. On the other hand, affections of the posterior portions of the vertebra, and more circumscribed lesions are much more difficult to demonstrate in the film. One must therefore realize the limitations of this laboratory aid; but to ignore its value is but to lose a most valuable ally in the diagnosis of the condition.

In dealing with roentgenograms, possibly the classification of the condition into an osteomyelitis rarefaciens; osteomyelitis ossificans; and an osteomyelitis suppurative is the best one to describe the findings in the film. Since the latter is but a photographic plate, shadows are to be interpreted, and this can most easily be fitted into the above classification; considering destruction, proliferation, and abscess formation as the pathological entities to be related to the shadows presented. Osteomyelitis is both a destructive and a proliferative disease, from a roentgenological viewpoint. Atrophy is one attribute which is lacking in the vast majority of cases. One of the earliest evidences is a thinning of the intervertebral disc; and this is all the more brought out if consecutive films are taken. In the earliest stages, before the contiguous bony structure has become involved, this may be demonstrated in the film by an alteration in the space between two successive vertebrae. As the process continues, a slight haziness and indistinctness of the bony structure may appear in the portions of the vertebral bodies

immediately adjoining the involved disc, obscuring the normal trabecular structure of the bone. In fact, this change may occur quite early. By this time, abscess formation is the usual story in the suppurative type of osteomyelitis of the spine, and this may be demonstrated in the film, especially if the dorsal region is affected, in which case a paravertebral fusiform shadow may be seen just as occurs in tuberculosis. As the disease progresses, destructive changes become apparent; the intervertebral disc may become entirely destroyed; portions of the vertebra become destroyed, and collapse of the body may be demonstrated, which may be complete or wedge shaped, depending upon the amount of bony involvement. The productive response forms one of the most characteristic attributes of osteomyelitis of the spine which differentiates it from tuberculosis. As a result of this proliferative activity, there may be exostoses, bridging between vertebrae, or fusion of the vertebrae may actually occur, and this latter is especially apt to be encountered in more severe involvements of the vertebral bodies. Actual bony fusion between vertebrae is not so easily determined from roentgenological studies, however, as will be considered under clinical interpretations later.

Many problems confront the roentgenologist in the interpretation of the findings in the film. In the more acute stages, changes in the disc, small focal destructions near the disc, even narrowing of the intervertebral spaces, may all be significant findings. Cases have been recorded in which multiple small areas of destruction appeared in the vertebral body or in the processes. A diffuse condensation of the vertebrae, especially in the lower dorsal and lumbar regions, is significant. Reports are encountered in which, at autopsy, these condensations have been found to be due to multiple areas of sclerosed bone in which healing has occurred. One of the authors recently performed a laminectomy on a case of osteomyelitis of the spine with no evidence of abscess formation in the vertebral column, but with symptoms of cord compression. On opening into the vertebral canal, the bone was found to be ivory hard in composition, much granulation tissue was found within the vertebral canal, and even the canal itself seemed appreciably narrow.

It is essential to take the films in several views. Although the lateral films are much

easier to read, antero-posterior views are indispensable for they show up some of the earliest evidences of the disease. Especially is this view indicated to show up static deviations, alterations in the intervertebral disc, or of the intervertebral spaces, localized areas of destruction not only in the vertebral bodies but also in the articular facets, abscess shadows, paraosteal calcifications, proliferative changes, etc. Oblique views are also indicated where the evidence is still uncertain, but the interpretation of these films is difficult. In lesions affecting the articular facets, the latter views are of great aid. The taking of the plates in the various views or positions, after thoroughly preparing the patient, may bring out certain details in one view not apparent in another. Sequestrae are difficult to demonstrate, since in these lesions they are so small, and since at times they are most difficult to differentiate from proliferative effects. Erosion phenomena are most difficult to demonstrate, unless the proper view be taken. At times, stereoscopic plates are most valuable aids to establish the less conspicuous lesions.

The demonstration of abscess shadows is not particularly difficult. A retropharyngeal abscess, in the cervical region, pushes forward the esophagus and trachea, and therefore the shadows of the pharynx, larynx or trachea are seen to be displaced some distance forward from the vertebral column, in the lateral film of the cervical spine. At times it may be possible to actually determine a somewhat semilunar shadow which is smoothly outlined. The shadow, however, in the recent case, is not particularly definite. It must be remembered that shadows cast by these pus collections is in some measure due to the inflammatory edema of the paravertebral tissues. At times, this edema may be the major cause of the shadow. When the abscess has been present for some time, however, calcification of the contents may occur, just as in tuberculosis, and the actual outline of the pus pocket itself may then be evident. Calcification of an abscess is not specific for tuberculosis. As Professor Klotz has stated, calcification may occur in dead tissues, regardless of what the cause of the necrosis was. This has been stressed by the late Professor Prentiss.

In the dorsal region of the spine, the paravertebral abscess appears as a spindle shaped shadow, within which can be seen the shadow of the vertebral bodies. Since the prevertebral



space extends upwards and downwards practically the whole region of the spine, these shadows may extend the whole length of the spine, and this very rapidly. Since pus formation is so conspicuous in osteomyelitis of the spine it is not surprising to note how many authors stress how long these pus pockets may be; unless perforation occurs into more dangerous channels. In the dorso-lumbar region, the roentgenologist must be careful in his interpretation for the abscess shadow may resemble very closely the heart shadow with the result that the diagnosis is missed.

It is most difficult to demonstrate abscess shadows in the mid-lumbar region, commonly, however, abscess formation occurs on each side. Later when some calcification occurs, these abscesses may show up more definitely, and since they may then overlie the shadows of the kidneys, it is at times possible to consider these kidney shadows. Since these abscesses follow the iliopsoas sheath, careful examination of the region may depict the abscess shadow as a bulging iliopsoas shadow. This is all the more apparent if unilateral. In the lumbo-sacral region the difficulties encountered are still greater, and many roentgenologists consider it impossible to diagnose these abscesses unless calcification takes place, and this, of course, means an old lesion.

#### CLINICAL PATHOLOGY

The very early knowledge of osteomyelitis of the spine dealt with only those cases that came to autopsy and, therefore, of necessity included only the more severe manifestations of the condition. The diagnostic ability of the profession has only in the last few decades reached such a stage as to definitely diagnose this condition with a reasonable amount of certainty from the symptomatology and the roentgenological findings alone. In 1921 Kidner reported on chronic types of infections in osteomyelitis of the spine in which the virulence of the organisms were of a low grade. Mathieu recognized four definite clinical types. Firstly, an acute osteomyelitis in the growing age groups which he considered mainly an osteoperiostitis; a sub-acute form presenting great similarity with Pott's disease; thirdly, a hyper-acute form with abscess formation, involving the vertebral bodies and fourthly, the ordinary acute type of osteomyelitis of the spine.

In 1929 Dr. Steindler described osteomye-

litis of the spine under the heads of acute, sub-acute, and chronic forms. In 1933 Smith considered the chronic forms of osteomyelitis of the spine more from the standpoint of mild type of lesion or rather its benign characteristic than from the standpoint of differential clinical pathology. The more recent literature and more careful analysis of case histories tend to bring out the necessity of differentiating definite clinical types of osteomyelitis of the spine which may be considered under the heads of hyper-acute, acute, subacute, sub-chronic and chronic forms. While the above classification is a very desirable one and is extremely useful in the consideration of the clinical pathology of the condition one must not lose sight of the fact that all of these cases are serious cases—that all of these cases are gradations in the inflammatory process—the gradation depending upon several factors, namely, the resistance of the patient, the dosage of the organisms and the virulence of these organisms. Thus, an osteomyelitis of the spine caused by the staphylococcus organisms is still a staphylococcus osteomyelitis regardless of whether the condition is acute, sub-acute or chronic. Moreover, it must be recognized that a hyper-acute inflammatory process may gradually be formed into a sub-acute or chronic condition provided the resistance of the patient is raised or the virulence of the organism is lowered. In fact, a careful study of these cases tends to show that this is the usual situation and that the real hyper-acute condition which ends fatally is the exception rather than the rule. This is a distinct contradiction of the statement of the older textbooks. On the other hand a chronic form of osteomyelitis may be lit up into an acute form and end fatally even though the process began with very mild symptoms. While all these distinctions may seem rather theoretical to the physician according to the authors own investigations they are of the utmost importance in the consideration of the pathology of the condition and above all in the treatment. Since many of these foci are so located that they can not be directly attacked, the whole problem in treatment is to turn this condition, if acute, or sub-acute, into the chronic variety, which the patient seems to be able to handle very well. These are the so-called low-grade infections considered by Kidner and these are the so-called benign forms of osteomyelitis of the spine considered by Smith.

Another classification of the symptomato-

logy or the mode of onset of osteomyelitis of the spine involves the consideration of whether the first symptom or groups of symptoms are referable to the osteomyelitis of the spine, *per se*, or to one of the complications of the condition. In osteomyelitis of the long bones elsewhere in the body the general symptoms of the bone infection itself are extremely acute and the patient presents a picture so commonly due to an overwhelming infection. In osteomyelitis of the spine on the other hand the involvement of the bone itself does not give rise to the same acute generalized picture. Klein considers this as possibly being due to the relatively small amount of marrow involved in the spinal condition in contrast to the amount involved in disease of the long bones. Be that as it may, it is certainly definite that an exceedingly large number of these cases, the more recent the statistics the larger the number, do not present symptoms severe enough locally to indicate the origin of the infection so that the condition is not recognized until some complication arises with its train of consequent signs and symptoms. Another characteristic of osteomyelitis of the spine is that the complications assume such tremendous proportions both with respect to the size of the complication and the symptomatology which accompanies it and also so soon may these complications arise following an osteomyelitis of the spine that the major outstanding feature is not the osteomyelitis of the spine but the complication. This brings to the fore the importance of understanding the pathology of the condition so that it may be recognized and treatment properly instituted. An outstanding example of how these cases may be overlooked is the fact that the authors have seen four cases of retropharyngeal abscess in the last three years in two of which there was definite evidence of involvement of the cervical spine. These cases ranged in years from six to eighty-four yet retropharyngeal abscess is considered a rarity by authorities after the first two years of life.

#### MODES OF ONSET

Since it is evident that osteomyelitis of the spine is not being recognized in the early stages, or is being overlooked entirely, it is highly important that the profession at large realize the manifold variations in the onset of the condition. Analysis of case histories shows that localizing symptoms which point to spine in-

volvement immediately are the exception rather than the rule, and that as a rule the patient presents a picture of a severe generalized infection, or one of the complications has set in with its train of symptoms, which brings the patient to the doctor. This fact has been stressed by several authors both in this country and in Europe, and they have attempted to group these cases under a series of headings. Too many classifications always confuse the pathological picture, but from a practical clinical standpoint, the grouping of these cases is an excellent procedure.

#### GROUP I

According to Steindler, Klein, and others, one of the most outstanding features of osteomyelitis of the spine is suppurative activity. In this interpretation, however, these authors are but considering one type of osteomyelitis, namely the suppurative type. Since the statistical surveys at present are entirely inadequate it is difficult to state just what proportion of the cases are suppurative in character. One of the authors, an orthopedic surgeon, believes this to be the most common type—while another, a pathologist believes the rarefying type to be the most common. Be that as it may, abscess formation may be the first sign or symptom of osteomyelitis of the spine, and depending upon the particular location of the abscess will depend the particular train of symptoms presented. Of course, it goes without saying that the patient previously to this evidenced signs of an inflammatory process, but not until abscess formation occurs may the attending physician be given a hint as to where to look for the pathology, and even with abscess formation the definite localization of the origin of the infection may be so vague that it may not be determined until autopsy is performed. A definite example may be cited where the family doctor treated the patient for three weeks for the "flu", during which time she developed a retropharyngeal abscess. The author drained this via the Prentiss route, and could follow the abscess cavity directly to the anterior tubercle of one of the midcervical vertebrae, which he found definitely roughened. Another is that of a young boy with retropharyngeal abscess, who also had a suppurative arthritis of the hip, following an erysipelas (as diagnosed by the family physician.) In draining this retropharyngeal abscess the author encountered a small sequestrum



about the size of a pea, in the pus which escaped. These experiences and reports constantly found in the literature have convinced the authors that any of these abscesses when encountered in the older age groups should be considered as coming from a focus of osteomyelitis in the spine until ruled out. Especially is this true of abscesses which present anywhere in the back near the vertebral column. However, since these abscesses may point quite a distance from the original lesion, the source of any discharging sinus should be carefully determined. In this, injection of lipiodol into the sinus and following up with x-ray investigation may reveal the lesion finally far from the sinus opening, as in the case already mentioned by the authors. It is to be remembered that even with the abscess located, there may be no sign of underlying disease. The common locations for such abscesses are anywhere in the back, retropharyngeal, mediastinal, psoas, in the buttocks, in the pelvis, etc.

#### GROUP II

According to Klein, in his series, the next most frequent group is that in which patients present neurological symptoms. In an analysis of the cases, however, of larger statistical reports one finds this to be less frequent than recorded by Klein, but they certainly do form an alarmingly large percentage of the cases. Again, it goes without saying that the patient presents also the signs of an inflammatory infection, which may have preceded the neurological syndrome but which was insufficient to give the clinician clue enough as to where the inflammation was until the neurological signs developed. The patient may present paresis or paralysis of a limb, abnormal reflexes, sphincteric disturbances, sensory disturbances, or tenderness along the peripheral nerves. Root pain is not uncommon as has already been discussed under pathology. Inability to localize the infection to the proper region may cause the clinician to erroneously make the diagnosis of "toxic neuritis" or "toxic myelitis" as has been stressed by Klein. Therefore, in all cases, who give a history of an inflammatory focus capable of resulting in a bacteremia or septicemia, and who develop symptoms referable to the spinal cord, should have the diagnosis of osteomyelitis of the spine ruled out.

#### GROUP III

Curiously enough, the group consisting of

cases which present symptoms referable to the back from the onset are not the majority of the cases but rather the minority. Here again, the picture is somewhat confusing since so many generalized infections result in pain in the back. Osteomyelitis being much less common than these general conditions is not usually thought of by the general practitioner; moreover, roentgenological findings are negative in the early stages unless a hyperacute form exists with tremendous destruction of the vertebral bodies. The demonstration of lesions in the film in the posterior arches of the spine is exceedingly difficult. However, these cases do present the signs and symptoms of a severe inflammatory condition, with local signs and symptoms referable to the back, but these will be discussed under the symptomatology. The hyperacute and the acute forms of this condition are more easily recognized but the sub-acute and chronic forms may offer great difficulties in the early diagnosis.

#### GROUP IV

There are a number of cases which present serious problems to the attending physician since metastatic involvement occurs in important viscera. The visceral involvement may be so acute and present such prominent symptoms that no thought at all is given to the spine until gibbus formation occurs, or until after the subsidence of the visceral complication, the patient then begins to refer his symptoms to his back, which brings the attention of the physician to this region. Chest involvement and kidney involvement seem to be the most frequent serious complications in this series. Thus in one case of the authors, the attending physician thought he was treating a case of septicemia with kidney suppuration, until gibbus formation occurred revealing the true major condition present, the former being a complication of the latter. These cases are not as rare as one might think. In the more chronic types, the diagnosis is difficult to make. Thus one case presented a serious kidney derangement which was thought to be tuberculosis of the kidney since the patient had also a spine lesion which caused bridging across the vertebrae. This patient later developed signs of compression of the cord and was referred to the author's service. Examination of the x-rays of the spine revealed a lesion which was pyogenic rather than tuberculous. Examination of the former reports showed that while innumerable guinea pig inoculations were

made, at no time was a positive test recorded.

#### GROUP V

There is a small group of fulminating cases which develop severe septicemia and pyemia with multiple abscesses in the viscera, especially the kidneys, spleen, and lungs, and coincidentally abscesses in the vertebrae. At times, the correct diagnosis is made in these cases if the spinal lesion occupies the foreground; at other times, the visceral lesions are so massive that they hide the true diagnosis until post-mortem examination. Naturally, this group of cases are the poorest from a therapeutic standpoint, yet it is surprising how some of these apparently hopeless cases eventually make recovery.

#### GROUP VI

Although the author dislikes the term benign forms of osteomyelitis of the spine, there are chronic osteomyelitis lesions, as reported by Kidner, Smith, and others, which do not have the same serious ending as the others. The authors prefer to retain the term chronic osteomyelitis for these cases, since they are far from being benign. Given proper setting, these so-called benign lesions may turn into malignant ones. A case in point is one which the author encountered in a prominent clinic in a large city. The surgeon in charge of the case pointed out what he had diagnosed as tuberculosis of the spine which had healed by fusion by a bony bridge which stretched across three vertebrae. This same case had developed an osteomyelitis of the clavicle which the surgeon thought a separate lesion. The surgeon had cleared up the clavicular lesion and following this the patient developed an abscess in the back which continued to drain for some time. The author firmly believed that this was not an osteomyelitic lesion superimposed upon a tuberculosis one, but that the whole story was one of chronic osteomyelitis confused with tuberculosis. It is therefore difficult to say when an osteomyelitic lesion of the spine is healed in these chronic cases, especially where the lesion is in a region which can not be surgically attacked.

#### GROUP VII

A certain small percentage of the cases are complications of an osteomyelitis in other bones of the body. Although the fact that the patient has an osteomyelitis elsewhere in the body, should make the surgeon suspect osteomyelitis of the spine when the patient develops

symptoms referable to it, it is not uncommon to find that the diagnosis is missed, as happened in the experience of the author in a case where he suspected perinephritic abscess and was chagrined to hear from the general surgeon that the verified diagnosis was osteomyelitis of the spine.

#### SYMPTOMATOLOGY

It is most difficult to give a characteristic train of symptoms to this condition since the pathological details vary. Suffice it to say that the exact train of symptoms will depend upon the particular group to which the individual case of osteomyelitis of the spine fits into. If the general physician will take pains to make a most thorough physical examination of the patient at all times, many of these cases will be detected at a much earlier date. The symptoms of the acute case may be considered more easily than in the less acute cases.

A careful history is important, since the author was surprised to find how many of the acute cases gave a history similar to cases of osteomyelitis with involvement of the long bones. The patient may have had a boil, a carbuncle, or a sore throat. Following this there arose symptoms of a severe generalized infection with high fever, malaise, leucocytosis, and the patient may be so severely ill as to be prostrated. In these cases, back pain is complained of and careful examination of the back will reveal local tenderness, muscle spasm, and even contracture. Radiating pains in the thorax are considered by many writers, and because of this the slightest movement is avoided, even while the patient is in bed. Roentgenological findings at this time are, of course, negative. While the tenderness may be local the pain complained of by the patient is diffuse. It is the diffuse character of the pain which throws so many doctors off the track, since without localization, the condition may resemble any one of a number of conditions like typhoid fever, pneumonia, pleurisy, peritonitis, kidney disease, etc. Unless osteomyelitis of the spine is suspected early in these cases, the picture is lost track of for some time since complications then set in, with their own attendant train of signs and symptoms. The patient may then be treated for a pericarditis with effusion, or a pleurisy with effusion, or kidney suppuration for some length of time before the origin of all these metastatic or extending lesions is discovered. While the authors



stress the importance of taking into consideration the antecedent history of the case, and the presence of local tenderness, this must not be taken too literally. Local tenderness is absent in many of these cases according to the literature, but then the older literature must not be relied upon too greatly since they represented post-mortem findings rather than the earlier cases now diagnosed. Following the initial severe onset of the condition, the patient seemingly gets better, and the temperature while still much above normal is not as high as it was in the early severe picture. In cases which present localization to the spine, with abscess formation, after a variable length of time, as a general rule ten days or more, diffuse swelling may be detected along the back muscles, if the abscess points in this direction, or manifestations of a deeper abscess, retropharyngeal, mediastinal, or in some other location. This follows the picture seen in osteomyelitis of the long bones, for with the breaking through of the abscess in the subperiosteal region, the patient seemingly gets better and his temperature becomes lower. But the condition is indeed very grave.

The older descriptions of osteomyelitis of the spine attempted to give a differential symptomatology in cases of osteomyelitis of the vertebral bodies and those of the arches. The authors consider this erroneous. In analysing the cases of osteomyelitis affecting the arches alone, and those affecting the vertebral bodies alone, they were unable to see that there was much difference in the onset or the clinical symptoms between them. Naturally the complications that set in may differ somewhat depending upon the particular location of the bony lesion. Moreover, as has been stressed in the discussion of the pathology, the usual finding is a diffuse lesion rather than a circumscribed one.

The pain is most severe at the initial onset. Then it seems to hold a secondary position since the other symptoms, especially when complications set in, occupy the foreground. The pain is especially prominent on motion. Muscle spasm is noted in a large number of cases. Peculiarly enough several authors have stressed the fact that pain on jolting is often absent or is certainly less prominent than in tuberculous lesions.

Another peculiarity mentioned by several writers is the fact that rest does not give relief from pain which makes this differ somewhat

from a tuberculous lesion. While the pain in the early stages is more of a diffuse nature over the entire back later it does become localized to the vicinity of the involved areas, provided complications of a serious nature do not set in.

Careful examination of the records of some twelve severe cases of osteomyelitis of the spine brought out certain features which may be of fundamental interest. In the first place, in high dorsal and cervical lesions, the patient complained of a peculiar hoarseness, and the examination by an otolaryngologist in two cases revealed edema of the glottis. Swelling of the neck may be noted, and yet there may be no evidence of regional pathology. Meteorism may be so marked as to simulate an actual ileus, and with this there may be intense vomiting which may be controlled but with difficulty. Genito-urinary symptoms may be pronounced, even though there may be no actual suppurative condition affecting the kidney. These vague and bizarre symptoms may be due to an inflammatory edema of the prevertebral tissues and the resultant irritation of the sympathetic chain and ganglia, as suggested by Kulowski.

It is not to be expected from a consideration of the pathology that local signs are to be found early in the history of the disease. In the first place, because of the depth of the lesion some time may elapse before these local signs appear. It is true, however, that in involvement of the posterior processes, these manifestations occur at a much earlier date than when the deeper portions of the spine are involved. In the cervical region due to the large muscular masses, the formation of a superficial fluctuating abscess is the exception rather than the rule. In the regions where the musculature is less dense and more yielding, palpable edema and some infiltration of the soft structures may be felt. Moreover, abscess formation is merely a complication of the disease, and this means that the process has been active for some time prior to the diagnosis of such an abscess.

Laboratory investigation does not help particularly in the making of a diagnosis. There is high fever, leukocytosis, and a low sedimentation time, but these signs are found in any infection. With reference to the sedimentation time, it is low in cases of osteomyelitis of the spine, but so it is in any type of infection. One of the authors made a rather exhaustive survey on the value of the sedimentation time in bone and joint pathology. His conclusions were

that the test had no differential diagnostic value; although it did help to differentiate from such conditions as sprains. It did have a prognostic value and this will be discussed under that head. Blood cultures are of use in differentiating the condition from tuberculosis or visceral lesions.

(To be concluded in the next issue.)

## PNEUMOCOCCUS PNEUMONIA\*

(WITH SPECIAL REFERENCE TO TYPE DIAGNOSIS AND SERUM THERAPY)

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Pneumococcus pneumonia is not one but many diseases. Determination of the inciting agent gives valuable information regarding prognosis and treatment. Lung suction may be helpful in establishing the bacteriological diagnosis, particularly when sputum specimens are difficult to obtain. Lung suction cultures, positive in more than 500 pneumonia admissions at Harlem Hospital, New York City, indicated (1) that the sputum was a reliable index of the type causing the pulmonary infection (2) that the sputum type is rarely a carrier, and (3) that the incidence of infections due to mixed types is uncommon.

Blood cultures should be taken on admission and repeated daily. The early use of specific serum is very important to prevent or at least check bacteremia with its high mortality (multiplies the rate five to seven times.)

Types I and II are responsible for nearly sixty per cent of all pneumococcus pneumonias. This high incidence and the emergency nature of the disease justify an initial dose of Bivalent Type I and Type II Antipneumococcic Serum immediately upon clinical diagnosis provided there must be a delay in type determination.

Before giving any serum product intravenously, some test for sensitivity should be carried out. The eye test is generally regarded as being more reliable than the skin test because the latter occasionally gives positive reactions in individuals who can safely tolerate serum.

The first cc. of serum should be administered

very slowly, irrespective of the outcome of the eye test or the allergic history. The initial dose is usually 10,000 units although there is a growing tendency to give larger amounts.

Early type determination facilitates serum treatment, saving serum and saving lives. The Neufeld rapid typing (capsule swelling test) permits type diagnosis directly from the sputum within a few minutes in most cases. Sputa with very few pneumococci may necessitate mouse inoculation.

One hour after administration of the initial dose of serum, at least 20,000 units should be given intravenously and repeated every four hours as indicated. The chief criteria for regulating dosage are result of the blood culture, pulse and temperature drop, and general clinical improvement. As a further aid, Bullowa recommends an agglutination test on the patient's serum against the infecting type, correlating the appearance of agglutinins with the beginning of convalescence.

The average Type I case requires 60,000 units and the average Type II patient 100,000 units. If bacteremia or pregnancy is an added factor, these figures have to be doubled.

Supplementing specific treatment, oxygen is indicated for dyspnoea and cyanosis, preferably by tent or chamber at a concentration of fifty per cent. Strapping the chest relieves pleuritic pain and fifty per cent glucose not only reduces pulmonary edema but also conserves the depleted glycogen stores. Epinephrine allays the urticaria of serum sickness, shown by Bullowa to occur in thirteen per cent of his Type I patients.

In the final analysis, mortality reduction determines the success or failure of a therapeutic measure. Numerous large well controlled studies make it apparent that early and adequate specific serum treatment reduces the mortality rate to ten per cent in Type I and twenty-five per cent in Type II cases. Compared with control rates this means a possible saving of two-thirds Type I and one-third Type II pneumococcus pneumonias—amounting to 25,000 lives annually, in the United States.

—JKMS—

If a child be born well, at least two-thirds of its battle for life is won.—William Colby Cooper.

—JKMS—

In all things relating to disease, credulity remains a permanent fact, uninfluenced by civilization or education.—Osler.

\*Presented at the March 11, 1936, Staff Meeting of St. Francis Hospital, Wichita, Kansas.



## CERTIFIED MILK AS A SOURCE OF VITAMIN C†

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Although in 1921, Hess stated that it required a minimum of about a pint of milk to protect an infant from scurvy, milk at the present time is almost entirely ignored as a source of vitamin C. This can probably be laid to the fact that a majority of the early studies indicated that milk was a quite variable source of this factor. The point should not be overlooked, however, that before the discovery of vitamin C, milk was the only important source of this vitamin for infants.

Prior to the development of a chemical test for the scurvy preventing factor, the use of more critical methods for the biological assay of vitamin C in milk had produced higher values than any previously reported. Winter milk from cows on good rations was found to be almost if not actually as potent as the best summer milk produced by cows on pasture. Tests made on certified milk from a New Jersey farm showed that such milk was of practically constant vitamin C value throughout the year, and the potency was about fifty per cent higher than current estimates.

The early literature which has been quoted in most texts and reviews of the subject supports the conclusion that the ration has a marked influence on the vitamin C content of milk. On the other hand, studies made as early as 1921 at the Kansas Experiment Station have indicated little relation between the ration and the antiscorbutic properties of the milk. Since the development of the chemical method more extensive tests have been made at this station comparing the vitamin C content of milk from cows on good winter rations and on pasture. No significant increase in the vitamin C concentration of the milk has been observed when the cows were turned to pasture in spite of the fact that their intake of this vitamin was increased enormously on the spring pasture. In a test with three cows stall fed approximately 150 pounds of green rye each daily, it was

estimated that their daily vitamin C intake was equivalent to that contained in a twenty gallon barrel of orange juice. No appreciable increase in the vitamin C content of the milk was observed even after ten days feeding. The failure of the ration to influence the vitamin C content of milk is in accord with the fact that the cow is known to synthesize this vitamin.

At the Kansas Experiment Station chemical tests of the vitamin C content of milk have been made on an extensive scale. This milk has been produced under conditions approximating those on certified farms. Repeated tests of the milk for about seventy cows representing the four major dairy breeds gave an average value of 25.5 milligrams per liter (slightly more than a quart.) These tests were made on milk less than four hours old with samples taken directly from the pail as milked. While no conclusive data relative to the human requirement for vitamin C are available, twenty-seven milligrams per day has been suggested as an adequate amount for an adult. Fresh milk, therefore, is a more important source of vitamin C than it is generally credited with being.

Before we become too enthusiastic about the importance of milk as a source of vitamin C, however, it should be recognized that this is the least stable of the vitamins. The rate of destruction is accelerated at high temperatures, as in the holding method of pasteurization.

The old view was that vitamin C was destroyed by the heat. Now it is known that oxidation is responsible and that this oxidation takes place slowly unless catalyzed. For example, contamination of the milk with certain metals, particularly copper, accelerates the rate of destruction of this vitamin. Recent studies at Cornell University also indicate that an enzyme may be involved for it was found that if milk is heated rapidly to 200 degrees in the absence of metals, little or no destruction of the vitamin took place, while if only heated to 143 degrees, the temperature developed in the holding vat method of pasteurization, oxidation of vitamin C took place quite rapidly. The explanation was that at 200 degrees F. the enzyme is destroyed immediately, while at the lower temperature it is not.

Since pasteurization of certified milk has recently been approved it is worth noting that

†Presented before the annual conference of the American Association of Medical Milk Commissions and the Certified Milk Producers Association in Kansas City May 11, 12, 1936.

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## PRESIDENT'S PAGE

### TO THE MEMBERS OF THE KANSAS MEDICAL SOCIETY:

There has been allocated to Kansas certain federal funds to be expended through the State Board of Health. These funds supplement state funds already available for the various activities of the state health department with some addition. The Secretary of the Board of Health, Dr. Earle G. Brown, has requested us to assist his department by the appointment of members of The Kansas Medical Society to various committees of the state health department. These have been appointed. It was further concluded that there should be set up in each county medical society and also in those counties which do not have societies, a committee to be known as the Liason Committee of the State Board of Health. This liason committee is to be composed of a chairman and two other members, one of whom is the local member of the Medical Economics Committee. It is desired that this committee shall be in readiness to assist the state department of health and the county department of health in the various activities. We feel the purpose of all organizations can best be served by working in the closest cooperation with Dr. Brown.

With the money available and with the cooperation of the various units of Kansas medicine, much can be done in immunization, better protection of mothers and children, sanitation, and various other activities. The refresher courses now being put on in the western part of the state, and which will be given in the other portions of the state, bring to each local community the post-graduate modernization of thought in obstetrics and pediatrics which is of value. We have done those things in the state before to our advantage. This comes to us without any cost to the individual physician. Local participation in the various public health meetings put on by the state should be of advantage to each medical group.

Just how much of the Social Security Act will live through the courts we do not know. We do know that we have been given some money by the Federal Government for public health projects.

Kansas is particularly fortunate in the director of public health, Dr. Earle G. Brown. He is a fine physician thoroughly in sympathy and in accord with all the interests and the aims of the medical profession. He stands at the very top as a public health official.

In the June issue of the Journal of The Kansas Medical Society under Medical Economics, Dr. Brown discussed the various activities of the Social Security Act as it affects his department. We request that you thoroughly inform yourself by studying this article. We urge each individual, through his county society, to get behind this program and the appointment of this committee in an interested and constructive way so that the utmost benefit will be derived.

H. L. Snyder, M.D.



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## EDITORIAL

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### OSTEOPATHIC PRACTICE

An event of interest to the Kansas medical profession occurred on May 29 when Mr. Scott Pfuetze, County Attorney of Riley County, in conjunction with Mr. Clarence Beck, Attorney General, Mr. Theo. F. Varner, Assistant Attorney General, and the Kansas Board of Medical Registration and Examination, filed a test case in the District Court of that county to determine whether or not osteopaths have a legal right to practice medicine and surgery in Kansas.

One of the foremost issues of the case, ultimately to be decided in the Kansas Supreme Court will be whether the legislature in its passage of the Osteopathic Practice Act in 1913 intended to confer medical and surgical privileges on osteopaths or whether it intended that they shall practice only that brand of healing which their founder, A. T. Still, described as follows: "Osteopathy deals with the body as an intricate machine, which, if kept in proper adjustment, nourished and cared for, will run smoothly into a useful old age. As long as the human machine is in order, like the locomotive or any other mechanical contrivance, it will perform the functions for which it was intended. When every part of the machine is adjusted and in perfect harmony, health will hold dominion over the human organism by laws as natural and immutable as the law of gravitation. Every living organism has within itself the power to manufacture and prepare all chemicals, materials, and forces needed to build and repair itself, together with all the machinery and apparatus required to do this work in the most perfect manner, producing only the substances that can be utilized in the economy of the individual. No material other than food and water, taken in satisfaction of the demands or normal appetite (not perverted taste) can be introduced from the outside without detri-

ment." If consideration is given to the fact that in 1913 none of the recognized schools of osteopathy claimed to teach materia medica, and instead openly ridiculed the very thought of drug therapy, it would seem clear that not only the legislature but also the osteopathic profession had in mind merely the latter result. Likewise, it would take a far stretch of the imagination to believe that the legislature actually contemplated the establishment of two separate and distinct agencies for the regulation of identical practices.

Another important factor of the case will be the 1925 decision of *State vs. Eustace* wherein the Kansas Supreme Court defined osteopathy in Kansas as:

"A method of treating diseases of the human body without the use of drugs, by means of manipulation applied to various nerve centers, chiefly those along the spine, with a view to inducing free circulation of the blood and lymph, and an equal distribution of the nerve forces. Special attention is given to the readjustment of any bones, muscles, or ligaments not in the normal position. It is that method of the healing art accomplished by a system of rubbing or kneading the body."

"Osteopathy when practiced by a physician or surgeon as is defined in Section 65-1005 (the section in the medical practice act defining what shall be regarded as practicing medicine and surgery) may be and probably is a part of the art or science, of healing, but the practice of osteopathy, while it may be a part of the art of healing, is not comprehended within the term 'practicing medicine,' nor within the term 'surgical operation' as used in Section 65-1005 of the Revised Statutes." Since that case still stands unreversed and as it seems to be based upon sound logic in view of past claims made by the osteopathic profession, there would appear to be good possibility that the court will desire to continue the precedent in the present action. The vast difficulties to be encountered through duplicate boards of medical licensure would also seem to make that course particularly important and necessary.

In the twenty-three years that have elapsed since 1913, a great amount of confusion and difficulty has arisen in connection with the problem presented in this case. Since no one took the initiative to enforce the laws as they seem to have been intended, it was easy for the above group to broaden its therapy concept as far as it liked. This naturally led other groups to do the same until today those who are closely acquainted with public health activities know that Kansas' greatest health problem is the loose and unrestrained practice of the healing art that is permitted to exist.

We feel definitely that the Kansas public owes a debt of gratitude to the above officials who have been big enough to risk the political furor this action may incur and who have taken a much needed step in the direction of clarifying and enforcing the laws of the state toward a fuller protection of that which is dearest in the hearts of men and women—the health and lives of their loved ones.

#### DR. E. G. BROWN HONORED

Dr. Earle G. Brown, Secretary of the Kansas State Board of Health, received one of the highest possible honors in the field of public health activities when he was elected President of the State and Provincial Health Authorities of North America at the fifty-first annual meeting of that organization held in Vancouver, British Columbia, on June 23.

The position is a particularly important one inasmuch as the membership of the group includes all state, governmental, and provincial health officials of the United States, Canada, and their possessions. Kansans will also be interested in the fact that the only other man ever elected to this office from a midwestern state was Dr. S. J. Crumbine, former Secretary of the Kansas State Board of Health.

The Society is proud of Dr. Brown for this accomplishment and also of the excellent Kansas

public health program he has supervised which makes the recognition truly deserved.

#### JAMES TATE MASON

The medical profession was deeply grieved to learn of the death on June 20 at Seattle, Washington, of Dr. James Tate Mason, President of the American Medical Association.

Dr. Mason's death at the age of fifty-four years and only one month after he had been installed in the highest office the profession can confer, occasions a sad loss to organized medicine. He had enjoyed a large amount of experience in medical activities and in his year as President-Elect of the American Medical Association, he gave a great deal of his time and traveled widely in the interest of furthering the functions of that organization. He was an exceptional leader and would have given medicine much valuable assistance for many years to come.

#### SCARLET FEVER

The more frequently one has occasion to observe scarlet fever, the more he appreciates the treacherous nature of the infection. It is also one of the most difficult of the communicable diseases, from a public health standpoint, that the physician is called upon to treat.

The typical symptoms are: Sudden onset with fever, headache, vomiting, angina, loss of appetite, and temperature sometimes as high as 104.5 degrees on the first day. With the aforementioned symptoms continuing for about twenty-four hours, a bright red rash becomes visible on the neck, chest, and flexor surfaces of the body. This rash consisting of very fine rose-red to deep red dots separated by minute pale areas of healthy skin, the scarlet points not being elevated above the surface, indicates that the patient has scarlet fever.



During recent years, for some unknown reason, numerous cases have occurred in which the disease is not so plainly marked: (1) The rash may be faint and last only a short time; (2) there may be a brilliant rash and no temperature; (3) sometimes there is a history of no rash; only headache, angina, and strawberry tongue; and (4) the scarlet rash with no other symptoms.

The diagnosis in all such cases is extremely difficult and sometimes almost impossible unless other typical cases occur in the household or there is a direct history of exposure to a previous case. In many cases of this type the parents do not consider the child is sick and therefore, do not call a physician. These missed cases are a large factor in the spread of scarlet fever and also handicap health authorities in their efforts to prevent additional cases occurring in the community.

During the year 1935, there were reported to the Kansas State Board of Health, 3,678 cases of scarlet fever with fifty-one deaths. In the first three months of the present year, more than 3000 cases have been reported. A low estimate is that twenty-five per cent of cases are never seen by a physician, and therefore, not reported. In order to avoid, as much as possible, undiagnosed cases that are seen by physicians, every method of diagnosis should be used in order to establish whether the case is, or is not, scarlet fever. The blanching test has been found valuable in the diagnosis of those cases showing a rash, but in which the diagnosis is otherwise uncertain. When 0.1 to 0.2 cc. of scarlet fever antitoxin is injected intradermally into the reddened skin of suspected scarlet fever patients, there occurs, after six to twenty-four hours, if the case is scarlet fever, a permanent blanching several centimeters in diameter around the site of the injection. (Schultz-Charlton phenomenon.) It is best observed some distance from the patient. Late rashes do not blanch as completely as early ones. There will be no blanching of the area following the injection of the antitoxin if the

patient's rash is not due to scarlet fever streptococci. The blanching is due to the neutralization (in situ) of a toxin within the cells of the patient by the injected antitoxin.

In making the Schultz-Charlton test, the same technic should be used as in making a Dick test or Schick test. The Vim-Oden intradermal needle supplied by Parke, Davis and Company, simplifies the introduction of the serum intradermally. A graduated tuberculin syringe should be used with the needle.

This blanching test is put up in one cc. vials which is sufficient for at least five tests and can be secured from any biological house.

Other important points in making a diagnosis are as follows: (1) Prevalence of the disease in the community; (2) history of exposure; (3) the rash first appears on the neck, chest, abdomen and inguinal regions; extends to the arms and lower extremities; frequently spreads the face, color ranging from pink to dark red, particularly marked at folds of the skin; rash disappears on pressure and when the finger nail or pencil is drawn across; (4) the affected skin is very itchy and often edematous; (5) the tongue is coated and very gray and its edges and tip are bright red. The fungiform papillae soon project through the coating as red papules—"strawberry tongue," and (6) desquamation does not begin until about the tenth day. This loss of skin is slight from the neck, then as fine scales from the trunk and extremities; it occurs as large flakes on the hands and feet and is found especially on the palms and soles.

In about fifty per cent of the cases, desquamation visible to the naked eye does not occur. As in other contagious and infectious diseases, some individuals possess an inherent or acquired temporary or permanent immunity against the disease. On the other hand, some children are highly susceptible to scarlet fever, and may have the second attack. The Dick test may be used to determine as to whether the person is susceptible to the disease.

## MEDICAL SCHOOL CLINIC

### SYPHILITIC FEVER WITH REPORT OF FIVE CASES

EDW. H. HASHINGER, M.D., and  
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Kansas City, Kansas

The various manifestations of syphilis are well known to every physician; even the sophomore medical student is told syphilis may simulate the majority of diseases. In spite of this the average physician when confronted with a case of long continued fever is quite surprised when it is proven to be luetic in origin, because such are infrequent enough to escape our every day consciousness. The subject of fever in tertiary syphilis is not new. It has long been known that remittent and intermittent fevers of obscure origin sometimes disappear rapidly after the administration of potassium iodide. Even when the fever is associated with known syphilitic lesions medical men are prone to find some other cause for the fever and treat the patient accordingly. The cases however which most often confuse the physician are those without demonstrable syphilitic lesions.

Futcher<sup>1</sup> describes three types of fever associated with syphilis: First, a mild continuous pyrexia, where the temperature ranges in the neighborhood of 101 degrees F. Osler<sup>2</sup> states that this is the common type of fever which precedes the constitutional symptoms and signs of secondary lues. Second, remittent type of fever with morning drops toward normal and evening exacerbations. This type is more common during the stage of invasion. Third, intermittent type of fever. This is the most remarkable form of all and is the type most likely to lead to error in diagnosis. Older observers such as Stoll and Frank speak of "febris quotidiana syphilitica." Thayer<sup>3</sup> in discussing his six cases of visceral syphilis, said that the type of fever is almost always quotidian with remissions or intermissions, and not infrequently with chills. It is sometimes fairly regular and in other instances very irregular. In untreated or inadequately treated cases, it is

usually a hectic fever, the duration of which may be surprisingly long. Thayer reporting one which lasted eighteen months, Nistico<sup>4</sup> one for eight months, Pebart<sup>5</sup> one for seven years and Sinha<sup>6</sup> one of ten years duration. In all of these instances there was almost a magical disappearance of the fever on the initiation of anti-syphilitic treatment.

In the diagnosis of tertiary lues with fever the greatest difficulty is encountered in differentiating it from tuberculosis, malaria, Malta fever and typhoid fever, if we are to judge from the cases reported in the literature. Janeway<sup>7</sup> in 1898 reported six cases which had been diagnosed tuberculosis, one of them being for a time also diagnosed malaria. They all responded promptly to antiluetic treatment. Dr. E. G. Cutler, in discussing Dr. Janeway's paper, told of two cases with positive tuberculin reactions which came to autopsy with absolutely no evidence of tuberculosis, but there was positive evidence of tertiary lues. Lanzenberg<sup>8</sup> reported two cases, one being first diagnosed typhoid fever and later tuberculosis, the other being treated for tuberculosis; both responding promptly to antiluetic treatment. Futcher<sup>1</sup> in 1901 reported three cases, one of them being diagnosed typhoid fever for weeks, the correct diagnosis being made on the development of periosteal thickening of the clavicles. Another of his cases was treated for some time as a malarial patient. Thayer<sup>3</sup> in reporting six cases in 1923 called attention to the obscurity of the symptoms, urging the therapeutic test in all doubtful cases of long continued low grade fever.

#### CASE REPORTS

Case 1—F. R., married woman, twenty-eight years of age, admitted to the surgical wards of the University of Kansas Hospital June 10, 1933, with the chief complaint of "pain and fullness in the stomach, and headache." She had six recurrent attacks of pain in the right hypochondrium associated with nausea and vomiting during the four months prior to her admission. The patient did not know whether she had fever during these attacks or not, but said that she did feel unusually warm. The bowels were always costive at these times so that partial intestinal obstruction was suspected; in fact the admission diagnosis was carcinoma of the gastrointestinal tract with metastasis to the liver. Family history revealed that her mother was confined to a state institution because of immorality. The patient

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has been married three times, had had "several" miscarriages and subsequently borne four children all of whom were living, the eldest being seven years of age. An admission note from the county health officer stated that all the children were subnormal mentally, and indeed the patient was mentally deficient; the whole family being dependent upon the county for support.

Physical examination: Moderately well nourished white female who did not seem to be severely ill. There was a slight exophthalmos and left external strabismus; the pupils were regular, equal and reacted to light and accommodation. Teeth were in poor condition. Examination of the heart and lungs was negative. B. P. 150/100. There was no adenopathy. The abdominal findings were the most important, the liver extending to the level of the umbilicus and quite nodular but not tender. Except for surgical scar from previous appendectomy the other findings were negative.

Laboratory and x-ray findings: Urine showed trace of albumin, otherwise negative; R.B.C. 4,380,000, hemoglobin sixty-five per cent, W. B. C. 6,000, and normal differential. Blood Chemistry; N.P.N. 22.4, creatinine 1.1, sugar eighty-seven,  $\text{CO}_2$  40.9 and chlorides 530. Icteric index ten. The blood Wassermann and Kahn were both four plus. Fluoroscopic and roentgenological examination of the G. I. tract after a barium meal was negative.

Progress and Treatment: During the first six days in the hospital her temperature reached 101 degrees F. daily, with no increase in the respiratory rate. This fever together with the history of spontaneous miscarriages, the finding of a positive complement fixation, and the abdominal findings made the diagnosis of syphilis of the liver most probable. Potassium iodide in increasing doses was started on the fifth hospital day, and two days later the temperature returned to normal and remained normal during the remaining two weeks in the hospital. She was dismissed with directions to continue massive dosage of potassium iodide for one month, to be followed by intensive treatment with bismuth or mercury; neoarsphenamine to be given later if the liver symptoms did not recur. When seen eleven months later she had had no more fever attacks and liver had returned to normal size.

Case 2—D. M., married woman twenty-three years of age admitted to the hospital January 19, 1934, with the chief complaints

of severe headaches, sore throat, painful left breast, and swollen glands in the left axilla and supraclavicular region. The history was negative except for social maladjustment,—a divorce and subsequent marriage to obtain a home. One child living and well by her first husband. Two months prior to admission to the hospital she noticed a small lesion on the left nipple, which was called to her attention by pain following a trivial injury. Afterwards her breast became tremendously swollen, red and painful, associated with axillary and supraclavicular adenopathy—a few of the glands larger than a walnut. She consulted a physician who incised her breast and obtained a "small amount of pus." After this the swelling partially subsided, but the marked adenopathy and induration of the breast persisted. Except for palpable epitrochlear lymph glands and marked pallor the physical examination revealed nothing in addition to the findings mentioned in the history. During the first seven days in the hospital the temperature rose to 101 degrees F. daily.

Laboratory findings: Urine negative; R.B.C. 3,860,000, hemoglobin sixty-eight per cent, W.B.C. 7,600, polymorphonuclear leucocytes seventy-seven per cent. Blood chemistry normal. Blood Wassermann and Kahn were four plus. Wassermann taken on husband was subsequently found to be four plus.

Discussion: On admission the diagnosis was not obvious,—that is, we did not recognize the lesion as a chancre of the left nipple, although the severe headache, sore throat and duration of illness should have suggested that diagnosis. The differential diagnosis at that time was pyogenic infection of the breast, carcinoma, or syphilis. Of course the age of this patient and the rapid onset was against carcinoma. The diagnosis was made perfectly obvious two days later when the patient "broke out" with the typical maculo-papular secondary rash, the complement fixation by this time being reported and found to be positive. At this time mucous patches were found in the mouth. Potassium iodide, bismuth and neoarsphenamine were given during the remainder of hospital stay. There was a rapid fall of her temperature to normal, with no subsequent elevation. She is being followed in the outpatient department and her breast condition has been cured and there has been no recurrence of fever.

Case 3—Mrs. G. M., white, age forty-eight, was admitted to the University of Kansas Hos-

pital February 1, 1934, with the chief complaints of daily chills and fever, accompanied by epigastric pain followed by vomiting and weakness. Her illness began in February, 1931, with weakness and loss of weight, followed by chills and fever which were accompanied by delirium. Since that time she has had relapses and remissions, and during the former her temperature would quite often reach 103 degrees F. She had been under a physician's care during each of her attacks, but does not know what medication she received. On January 1, 1934, she again started to have daily chills and fever from 102 degrees to 103 degrees F. These chills were always followed by epigastric pain, nausea and vomiting. She has lost forty pounds since the onset of her illness. Her only other complaints were constipation and increased menstrual flow. There is no history of venereal infection in this patient; she has been married three times; has one son living and well; had one miscarriage and two children who died in infancy; no pregnancies during her last marriage. The last husband was in a tuberculosis sanatorium.

Physical examination: Small opacity in the cornea of the right eye, pupils were small, unequal, and did not react to light, but responded sluggishly to accommodation. Head otherwise negative. Heart and lungs negative. B.P. 130/80. No tenderness, rigidity, palpable masses or organs in the abdomen. The knee kicks were increased; no pathological reflexes.

Laboratory findings: Urine showed a trace of albumin; R.B.C. 4,660,000, hemoglobin eighty-two per cent, W.B.C. 7,200. Numerous blood smears were negative for plasmodia. The blood Wassermann and Kahn were four plus; the spinal fluid Wassermann was also four plus. The Lange colloidal gold was negative. X-ray of the chest was negative for pathology.

Discussion: The impression on admission was tuberculosis, malaria or sepsis. The Argyll-Robertson pupils were observed, but syphilis was not considered the cause of her fever. However, further physical and laboratory examinations seemed to rule out all other causes of fever. After the four plus blood and spinal fluid Wassermanns were obtained, specific treatment was instituted. She was given potassium iodide to tolerance and bismuth salicylate twice weekly, with immediate benefit. In the first ten months she gained thirty pounds in weight and has had no recurrence of symptoms.

Case 4—L. L., white female, age forty-six, was admitted to the University of Kansas Hospital September 8, 1933. History of illness for three years before admission, with pain in the abdomen to the right of the umbilicus. In spite of an appendectomy for relief of this pain, it had grown progressively worse during the two years prior to her admission. At the operation the liver was noted to be very large and the surgeon told her family that she had a hopeless cancer of the liver. For several months she had been having recurrent attacks of nausea and vomiting, but said that she had never been jaundiced. There was no disturbance of the bowels; no bloody or tarry stools. The history was negative except that she had two still births.

Physical examination: Very poorly nourished. Dirty mouth with marked dental caries and dental sepsis. Lungs and heart negative. B.P. 125/80. The liver extended four fingers below the costal margin, being smooth, firm and not tender.

Laboratory: Urine negative. R.B.C. 3,410,000, hemoglobin fifty-eight per cent, W.B.C. 8,600. Blood Wassermann and Kahn were four plus. X-ray of the chest was negative.

Discussion: This patient's fever was quite hectic, rising to 102 degrees F. or above daily, but subsided after the administration of potassium iodide and bismuth. There was also an appreciable diminution in the size of her liver, a good gain in weight, and a disappearance of the right abdomen pain.

On returning to her home her physician gave her bismuth once a week but a very small quantity each time. Some of her symptoms returned and at her suggestion, bismuth was given twice weekly. In about six months she had gained twenty pounds in weight and was "free from pain and lump in abdomen" and able to do all her own work. For financial reasons she stopped all medicines and in a year she was again having trouble. A short series of bismuth and iodides "took the swelling down again and I felt fine." Treatment was stopped and on April 2, 1936, she was again admitted to the University of Kansas Hospital because of severe hemorrhage from stomach during the past week, with passing of tarry stools. Has been running a fever again lately and on examination liver is down three fingers below costal margin. Hemoglobin twenty-four per cent, R.B.C. 2,030,000, Wassermann four



plus, Kahn four plus. She weighed more than on previous admission, however.

In this case, fever, pain and "swelling in abdomen" disappeared three times through giving of antiluetic treatment and we are now undoubtedly dealing with a developing cirrhosis with hemorrhage from varicosities.

Case 5—Mrs. F. B., white, age thirty-nine, was first admitted to the University of Kansas Hospital February 6, 1934, with the chief complaints of abdominal pain, headache, fever and loss of weight. She had been seen by her family physician who made the diagnosis of acute appendicitis in spite of the fact that her appendix was removed twenty years previously; his assumption being that only drainage was done at the time of the operation. The onset of her illness was six weeks prior to admission, and for a time she continued to have fever daily, usually from 101 degrees to 102 degrees F. She grew progressively worse and lost about twenty pounds. The headache was constantly present. The history revealed that she had two miscarriages and two premature deliveries. We did not obtain a history of venereal infection in this patient or her husband.

The physical examination showed a poorly nourished, obviously anemic, patient with a sallow complexion. The pupils were regular, equal, reacted sluggishly to light but readily to accommodation. The posterior chain of cervical lymph glands were enlarged. The heart and lungs were negative. B.P. 140/90. Abdomen showed right rectus surgical scar, with no tenderness or rigidity. The left lobe of the liver extended into the epigastrium almost to the umbilicus, and was firm, smooth but not tender. The spleen was also enlarged and quite firm extending three fingers below the left costal margin.

Laboratory findings: Urine, negative. Blood chemistry normal. R.B.C. 3,900,000, hemoglobin sixty-three per cent, W.B.C. 6,200, polymorphonuclear leucocytes seventy-five per cent, lymphocytes sixteen per cent, eosinophiles five per cent, mononuclear leucocytes one per cent and myelocytes three per cent. Blood Wassermann and Kahn tests on two different days were four plus. The husband's blood Wassermann was negative.

Discussion: On admission the history was quite confusing and the examination made the diagnosis of myelogenous leukemia quite probable; however, this was ruled out by careful blood examinations. We were rather hesitant

to blame syphilis for all the findings in this patient in spite of the positive Wassermann. However, the patient was subjected to the therapeutic test of potassium iodide in massive dosage, together with protiodide of mercury by mouth. There was a rapid drop of her temperature to normal, and it has not been elevated during the past ten months. The patient has been readmitted at monthly intervals for further observation. The liver is now normal in size and the spleen is barely palpable. R.B.C. 4,700,000, hemoglobin eighty-four per cent. She has gained twenty-five pounds in weight since dismissal. Feels fine. The blood Wassermann and Kahn are still four plus.

### CONCLUSION

Five cases of syphilis with fever are reported, one being of the secondary stage with the fever in the period of invasion, one being involvement of the spleen, and the remaining three involvement of the liver. In view of the prevalence of syphilis, particularly tertiary, fever may be considered as a relatively infrequent symptom. It is believed, however, that fever is more frequent than medical literature would seem to indicate. McCrae and Cavin<sup>9</sup> in forty-three cases of syphilis of the liver reported thirteen with fever. We should bear in mind that a low grade fever frequently occurs in tertiary lues with no outward physical manifestations which would lead to the diagnosis, and that such fevers frequently call forth the diagnosis of tuberculosis, malaria, typhoid fever, rheumatic fever, etc. With positive Wassermann test, the absence of physical findings, and the presence of insidious low grade fever, we should always make use of the therapeutic test,—iodides and bismuth or mercury. If the fever does not subside in a week or ten days we must assume that it is not due to syphilis. Much delay in arriving at a diagnosis and a great saving of expense in avoiding laboratory tests and hospitalization, may be had through the use of the simple, inexpensive and safe therapeutic test. Remember Osler's motto: "When in doubt use potassium iodide."

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## OFFICIAL PROCEEDINGS

### 78th Annual Meeting

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(Continued from the June issue)

The following report of Clarence G. Munns, Executive Secretary, was presented in executive session. (By instruction of the House of Delegates certain portions of the report are not published.)

Another foremost activity of the Society during the past year has been the Social Security Act. This measure, as you know, has recently been financed by the present Congress, and is about to become operative in all states. The officials of the Society, believing there are some difficulties contained therein, have held many conferences on this subject, and have attempted to give all possible assistance toward offering the cooperation of the county medical societies in the medical and public health functions of the Act. As soon as plans in this connection are more definitely complete, the Social Security Act Subcommittee of the Medical Economics Committee intends to furnish the county medical societies with a digest of the Act which will include a description of all possible functions thereunder.

The Kansas WPA has been particularly cooperative in all medical matters under its jurisdiction. In fact, almost every request of the Society has been honored by that organization. During last July announcement was made in Washington that the United States Employees Compensation Commission would reimburse physicians for treatment of WPA traumatic injuries. The original plan provided that the state WPA officials would designate particular physicians to do this work, and that prevailing minimum fees would be paid. After several conferences an arrangement was approved for Kansas wherein doctors of medicine might participate on a free choice basis and payment would be made at the same rate paid for workmen's compensation cases. The plan is believed to have worked exceedingly well, and the Kansas WPA has received several official compliments from Washington for having one of the best methods in the country. In the seven months of its operation approximately 1800 cases have been treated by Kansas physicians.

Information was received recently that certain medical supplies are being dispensed in the WPA nursery schools without medical diagnosis. Conferences were held with their officials, and approval was given that each county

medical society might establish a medical advisory committee which would have complete supervision over all health and medical functions incidental thereto.

The WPA was also kind enough to include a Kansas medical history in one of its projects, and research is being accomplished at the present time in that direction under supervision of the Society's Medical History Committee. If this works out satisfactorily, it is our belief that Kansas medicine will have profited by a historical collection that could not be easily duplicated.

Dr. H. L. Snyder has given a large amount of personal effort toward having a Kansas doctor of medicine appointed on the State Board of Regents. The next appointments thereon will be made by the Governor on June 30, and some possibility exists for success in this direction.

A considerable amount of activity has been directed toward the Kansas Association for Social Legislation. This organization, composed mainly of social workers and social service agencies, has held several meetings in the interest of creating a lobby for a law to establish a Kansas public welfare board, licensure for social workers, and other broadened social activities. It was found that their proposed bill also included certain public health and medical functions. Objection was made that this inclusion would not be advisable, and an agreement has been reached that these functions shall be excepted from the act. Officials of the Society are now conferring with representatives of that organization toward securing a satisfactory wording for the amendment.

The American Red Cross recently requested that the Society endorse its Highway First Aid Project, which has been approved by the American Medical Association and the American College of Surgeons, and which is to be made operative in all states. The project will include the installation of first aid equipment in roadside filling stations, stores, etc., and first aid training for attendants at these locations toward making emergency treatment available to the sufferers of automobile accidents. Since it was not possible for the Council to consider this matter, and as Dr. H. L. Snyder felt that several important questions were involved, a complete description was bulletinized to the county medical societies for handling as they might desire.

The Board of Medical Examination and Registration and the Society were successful in two additional stages of litigation with John R. Brinkley during the past year. The United States District Court delivered a decisive opinion in January against practices employed by Brinkley, and the Circuit Court of Appeals has just handed down its appellate decision on the same case, which is particularly favorable to the interests of the medical profession.

Three prepayment concerns operating for profit and offering medical service for monthly payments were instituted during the past six months. One of these was located at Beloit, another at Wichita, and a third at Wellington. Through assistance of Mitchell County Medical Society and Sedgwick County Medical Society the former two were persuaded to abandon operation. Unsuccessful attempts were made toward an amicable settlement of the latter. As a last resort opinions were secured from the Kansas Corporation Commission and the Kansas Insurance Commission substantiating the fact that their scheme is illegal in this state, and the matter is now in the hands of the Attorney General with the recommendation of these departments that prosecution



be instituted.

At the request of Reno County Medical Society and through the courtesy of Dean H. R. Wahl arrangements have been made for cadavers to be furnished for dissection purposes by the University of Kansas Medical School to interested county medical societies.

In accordance with a suggestion made by the Council, correspondence has been exchanged with the Kansas Hospital Association and the Kansas State Nursing Association towards the establishment of joint committees for study of mutual problems. Both groups are interested, and have expressed their desire to cooperate in any way possible. Also, in this connection, and primarily through the activities of the Committee on Scientific Work, negotiations have been completed for closer cooperation with the Kansas State Dental Association, the Kansas Veterinary Medicine Association, the Kansas Pharmaceutical Association, the Kansas Bar Association and the Kansas Press Association.

The Kansas Academy of Science has invited the Society to participate in its organization, which is composed mainly of doctors of philosophy who are interested in advancing Kansas scientific interests, and arrangements have been completed to hold an early meeting with Society officials for consideration of this proposal.

The Southeast Kansas Medical Society forwarded the Council an official resolution requesting its assistance in the establishment of a state tuberculosis hospital in that area of the state. The Council ruled that it would favor this action as soon as the facilities at the Norton hospital were increased to fullest efficiency, and suggested that a recommendation of this kind be directed to the State Board of Administration. A courteous reply was received from the Board of Administration stating that the Society will be consulted about this matter as soon as funds are available for this purpose.

Conferences were held with the presidents and secretaries of the various county medical societies following the scientific meetings of the Cancer Control Program. Reports were made of several recent and contemplated activities of the Society, and suggestions and criticisms were requested.

Immediately following the appointment of committees for 1936 Dr. H. L. Snyder called a meeting of all committee chairmen to discuss proposed and possible committee activities for the year. Almost all committees were represented at the meeting, and all adopted definite programs which they hope to accomplish. At the present time most of these plans are under way.

Although committee activities during the past year will be reported in detail by the various committees at this meeting, we believe several accomplishments should be mentioned which possibly will not be included in those reports. The socialized medicine release prepared by the Medical Economics Committee has received an unusual amount of national recognition. Editorial comments have appeared in several prominent medical publications about its value, and requests for copies have been received from medical men and laymen in many parts of the United States. That committee has also received several compliments from other medical organizations for its present sub-committee plan of organization.

The recent postgraduate program of the Committee on Control of Cancer was the second of its kind to be held in the United States, and the first wherein attending physicians were not asked to pay an enrollment fee. The

speakers at this program were so enthusiastic about the Kansas profession and the reception they received that both have offered to return at any time they might be desired. We also attempted to secure the individual opinion of members in attendance at the above event as to whether activities of this kind are a wise expenditure of Society funds, and received a unanimous response in the affirmative.

We believe also the fact should be reported that the advent of the present American Medical Association meeting in Kansas City is due in no small way to the efforts of Dr. J. F. Hassig, Dr. W. F. Bowen and Dr. L. F. Barney. All three devoted the majority of their time at the last A.M.A. meeting in this direction, and comment was general at the meeting that their efforts were important in bringing about the decision.

The financial condition of the Society from the standpoint of income and expense seems to be satisfactory. The official financial statement as forwarded to the Treasurer for the period from May 1, 1935 to and including April 30, 1936 shows the following condition:

#### I. General Fund Expenditures: (Average)

##### Salaries:

Clarence G. Munns .....	\$3,000.00
Isabel Wright .....	1,020.00
Peggy Strawn .....	990.00
Extra Help .....	173.00

\$5,183.00

Rent .....	420.00
Telephone and Telegraph .....	464.34
Postage .....	491.57
Stationery and Supplies .....	468.43
State Meeting .....	652.13

##### Travel:

Clarence G. Munns .....	\$ 363.61
Atlantic City A.M.A. convention (3 persons) .....	372.28
Other A.M.A. meetings (4 persons) .....	191.10

926.99

##### Miscellaneous:

Luncheons and Entertainment (Including Council) .....	\$ 118.92
Clipping Service .....	55.85
Other Council Expense .....	35.00
Subscriptions .....	21.00
Credit Reports .....	4.50
Bank Charges .....	6.90
Personal Property Taxes .....	8.41
Insurance .....	7.06
Electric Fans .....	6.50
Bonds .....	10.00

274.14

Total ..... \$8,880.60

#### II. General Fund Expenditures: (Non-Average)

Special Litigation .....	\$1,004.60
Cancer Control Program	

Speakers .....	\$ 545.32
Printing & Supplies .....	73.90
Postage .....	29.15
Extra Help .....	10.00
Travel .....	91.00

749.37

Total ..... \$1,753.97

III. Defense Fund Expenditures:

Voucher No. 210 .....	\$ 391.93
Voucher No. 211 .....	15.10
Voucher No. 212 .....	75.00
Voucher No. 213 .....	Spoiled
Voucher No. 214 .....	75.00
Voucher No. 215 .....	422.87
Voucher No. 216 .....	561.70
Voucher No. 217 .....	448.18

Total ..... \$1,989.78

If the 1935 income is utilized for comparative purposes, the following surplus is apparent:

1935 Income:

1430 members (Less 28 Honorary) at \$8.00 .....	\$11,216.00
Accrual from Defense Reserve (1402 at \$2.00) .....	2,804.00

Total Income ..... \$14,020.00

Recapitulation:

A.

If Defense Fund expenditures and Average General Fund expenditures are compared with income:

Income .....	\$14,020.00
Defense Fund Expenditures .....	\$1,989.78
General Fund Expenditures (Average) .....	8,880.60
	<hr/>
	10,870.38
Surplus .....	<hr/>
	\$3,149.62

B.

If Defense Fund expenditures, average General Fund expenditures and non-average General Fund expenditures (every voucher written during the year) are compared with income:

Income .....	\$14,020.00
Defense Fund Expenditures .....	\$1,989.78
General Fund Expenditures (Average) .....	8,880.60
General Fund Expenditures (Non-Average) .....	1,753.97
	<hr/>
	12,624.35
Surplus .....	<hr/>
	\$1,395.65

Remittances totaling \$14,960 have been forwarded to Dr. Geo. M. Gray, Treasurer, during the year. \$10,800 of this amount represents 1936 dues collections received to and including April 30, and the remainder of \$4,272 includes 1935 dues received after May 1, 1935. Total membership as of May 1, 1936, including honorary members, stands at 1394 as against 1285 at the same time last year, and 1171 at the same date in 1934. We have also received remittances from 46 members since May 1. The total membership as of the present date is therefore 1440, which may be compared with the amount of 1430 shown for the entire year of 1935.

New county medical societies were organized in Chautauqua, Pottawatomie, Osage and Wabaunsee Counties during the past year.

The central office has attempted to be of assistance to the Auxiliary, and is handling some of its functions under direction of its officials.

A budget of Society finances has been in effect since January 1, and a proposed budget for next year is available for consideration at this meeting if such is desired.

Twenty-seven bulletins have been forwarded to the secretaries and presidents of the county medical societies during the past year, and five bulletins have been forwarded to the entire membership.

We have attended forty-one county medical society meetings during the same period.

In conclusion, we would like to express our appreciation for the great amount of assistance we have been given. Dr. J. F. Hassig has given a great amount of time and effort toward attempting to teach us something about our work. Dr. H. L. Snyder and the various other officers, board members and committeemen have been patient with our errors, and have given us all possible help. We have likewise called upon and bothered the officers of the various county medical societies many times, and they too have aided us to the fullest extent. We realize that we have a great distance to go toward effecting the kind of a central office you desire, and we sincerely hope we may have your frank suggestions and criticisms toward that end.

Dr. Henry N. Tihen moved that the reports of the Councilors not be read, and instead that they be handed to the Secretary for incorporation into the official minutes for publication in the Journal. Seconded and carried.

The following reports of Councilors were handed to the Secretary for publication:

Dr. L. F. Barney, Councilor of the Second District submitted the following report:

*To the House of Delegates:*

There are nine counties in this district—viz. Anderson, Coffey, Douglas, Franklin, Johnson, Leavenworth, Linn, Miami and Wyandotte, each of which has a regularly organized medical society.

The secretaries of each of these societies were submitted questionnaires and from these answers the following summary was compiled. Each secretary responded except from Coffey County, therefore we have no satisfactory report of that society.

TABLE 1

Number of practicing M. Ds., number of members and number of eligibles in the county.

County	Practicing	Members	Eligibles
Anderson	13	10	3
Douglas	38	28	1
Franklin	30	29	1
Johnson	?	18	3
Leavenworth	?	25	1
Linn	9	9	0
Miami	19	16	3
Wyandotte	179	130	16



TABLE 2

Frequency of meetings during the year, number of meetings during the year, membership of the county society—Average attendance at each meeting.

County	Frequency	Meetings	Membership	Average Attendance
Anderson	Monthly	7	10	10
Douglas	Monthly	12	28	20
Franklin	Monthly	17	29	25
Johnson	Monthly	10	18	10
Leavenworth	Monthly	8	25	15
Linn	Monthly	5	9	6 to 8
Miami	Monthly	7	8 to 16	8
Wyandotte	Semi monthly	33	130	38

TABLE 3

Interest manifested in organization and attendance at meetings compared with previous years.

County	Interest	Attendance
Anderson	Same	Same
Douglas	Increasing	Same
Franklin	Same	Same
Johnson	Same	Same
Leavenworth	Increase	Increase
Linn	Same	Same
Miami	Increase	Increase
Wyandotte	Increasing	Increasing

From the above these reports indicate a well organized district.

Table 1 reveals the membership in each society. It indicates that there are few M. D.'s, who are either disgruntled or living as parasites, taking all and giving nothing, or else they have not been properly instructed as to the value of medical organizations. Most, if not all, of them have been contacted by mail by the secretaries office of the State Society and the Councilor has offered to contact personally each of these when advised by the county secretary.

Table 2 reveals the activities of each society. It shows that regular meetings in each county have been instituted, two societies having had more than the scheduled number of meetings. It also indicates a very good attendance.

Table 3 reveals an increasing manifestation of interest in four with increasing attendance in three while the others show no decrease.

For this excellent condition their Councilor desires to express his gratitude for the cooperation given by the officers and members of all of the societies.

During the past year their Councilor has been in frequent communication with each of them, visiting most of them personally and there have been a few difficulties to iron out.

The major friction was in Miami County where for several years, eight of their eligible physicians were carrying their memberships in the Franklin County Society, lessening the membership of the Miami County Medical Society to an extent that it impaired the workings of this society which was contrary to the by-laws of The Kansas Medical Society. A special meeting was called and attended by members of both societies and it was agreed that all eight of these would be accepted into the membership of the Miami County Medical Society. The Councilor issued an order that the Franklin County Medical Society drop each of these members and now all of them are back in the Miami County Medical Society which should aid in the interest and activities of this society.

The Leavenworth County Medical Society has a resolution which has called for special attention of the Councilor and they have a petition which will be presented to this meeting of the House of Delegates.

Dr. E. C. Duncan, Councilor of the Third District submitted the following report:

*To the House of Delegates:*

All counties in the third district are now organized, the last being Chautauqua County organized last summer on a Sunday afternoon in Dr. Casfords office at Sedan, with the writer present.

All counties have more or less satisfactory arrangements for the care of the indigent; the low income group is the greatest problem now.

A number of our counties make no effort to have scientific programs at their county meetings, but attend the Southeast Kansas Medical Society which meets every three months, always with a good program.

We are interested in the work being done by the Medical Economics Committee, and appreciate the time and work they are putting in for our benefit.

Our society is in better shape than ever before, and more interest is being shown.

Dr. J. L. Lattimore, Councilor of the Fourth District, submitted the following report:

*To the House of Delegates:*

The fourth Councilor district is comprised of the following counties: Lyon, Shawnee, Osage, Wabaunsee, Chase and Morris.

Lyon and Shawnee Counties have held their regular meetings under very able leadership.

Wabaunsee County has organized a new society and applied to the State Society for a charter. Dr. C. L. Youngman is secretary and Dr. L. M. Tomlinson is president. They have held three meetings, the Councilor has attended three of their meetings. They have a membership of eight and appear to have a very live, wide awake group of men, working together to forward medicine in their county.

Osage County has organized a new society with Dr. G. B. Kierulff as president and Dr. F. M. Smith as secretary. They have held three meetings, the Councilor has attended all of their meetings to date. They have a membership of eleven members.

One meeting was held with the Morris County physicians. It was their opinion that they should have a business organization only. Dr. C. C. Kerr was elected to represent their group and will be called together from time to time, as the occasion demands. They will co-operate with the State Society in any plan that is suggested.

The Chase County physicians will meet upon call, when matters of importance demand their attention.

The Councilor has attended seventeen different county society meetings during the past year and feels that the district is well organized and ready to cooperate with the State Society in any of their plans.

Dr. Marion Trueheart, Councilor of the Fifth District, submitted the following report:

*To the House of Delegates:*

Medical matters are running a smooth course throughout the fifth district, except at Stafford County where

a controversy has arisen in regard to accepting the dues for a certain member for the current year.

Dr. Henry N. Tihen, Councilor of the Sixth District, submitted the following report:

*To the House of Delegates:*

The medical organization in the sixth district is in fairly satisfactory condition.

The medical profession in the counties of Greenwood, Butler, Cowley, Sumner and Sedgwick have well organized and active county societies that are functioning very satisfactorily and are taking an active part in the medical problems of the county in the handling of relief work, charity work, etc.

Harper County has a medical society; Kingman has a skeleton medical society organization, and Barber County has had no medical society organization. However, during this past year, an attempt has been made to form a tri-county organization of Harper, Kingman and Barber Counties. Several such tri-county meetings have been held and it is hoped that the profession in these three counties will continue to develop their own organizations for medical meetings in order that the medical problems in the county can be handled by the medical profession.

Comanche County, which is in the sixth district, has affiliations with the Ford County Society.

In these counties where the medical profession is well organized, the value to the profession and to the public is quite evident and it is quite evident that the physicians of any county cannot maintain their proper position in the medical affairs of their county unless working cooperatively in a county medical society organization.

Dr. C. C. Stillman, Councilor of the Seventh District, submitted the following report:

*Ho the House of Delegates:*

The Clay County Medical Society reports an active year. There are only two M. D.'s in the county who are eligible and are not members. Meetings have been regular and membership percentage attendance excellent. One meeting was missed on account of severe weather and road conditions. Programs have been both home talent and guest speaker presentations, and both have been of a high standard and appreciated. Dr. O. U. Need, Sr., is president and Dr. W. M. Van Scoyoc is vice-president, with Dr. F. R. Croson as secretary-treasurer. Dr. Warren Morton is delegate and he is to select his own alternate. We regret to report the loss to the society by the death of Dr. E. C. Morgan of Clay Center. He was young as years go but most rich in professional and other attainments. The end of an illustrious medical line. For the first time in more than fifty years Clay Center is without a Dr. Morgan of this family.

The Cloud County Society reports a good showing for the past year. They have twenty-one members. There are only three M.D.'s in the county eligible that are not members, and one of these has dropped out because of ill health, and is therefore nonactive. President is Dr. Frank Kinnamon; vice-president, Dr. C. D. Kosar; secretary-treasurer, Dr. J. M. Porter; delegate, Dr. L. E. Haughey; alternates, Drs. T. C. Kimble and W. D. Clark. A resolution was passed at their last meeting commendatory to the Councilor for past services. While it seems unnecessary to include it in this report, be it said that it warmed the cockles of that individual's heart.

One seldom, if ever, outgrows his childish pleasure at praise, be it ever so undeserved.

The Mitchell County Society overlooked their report, as did also Osborne, Jewell and Rooks. The last named county maintains no individual society, and let me interpose right here. Keeping up a medical society organization out in some of those counties that have been so hard hit the past few years by both drouth and other economic conditions,—still are for that matter,—is a most heartbreaking problem. The doctors deserve a lot of credit, *croix de guerre*, iron crosses, and so on for even carrying on at all. Osborne and Mitchell both maintain high class societies and we dislike to have to omit their reports. Jewell meets but infrequently, though with a medical personnel second to none in the state.

The Washington County Society, for so many years inactive, has a well functioning organization and they put on some very excellent programs. It has been our pleasure to attend several. This society and the Clay County Society hold two joint meetings yearly. They have thus far proven a success. The Washington county boys make it a dinner-meeting, and all of the Scotch members of the Clay County Society are always present. Good time too. How do I know? I have not missed a one. This society has a one hundred per cent paid up membership and an economics committee which is functioning satisfactorily.

The Republic County Society although it has only seven members, keeps up regular meetings and has the courage to keep things going. The chaps that live in cities where in many instances there are more doctors in one block, sharing one common reception room for their offices, than there are in one of these large counties, have not, I have sometimes thought, a keen appreciation of just how much "abdominal investiture" it takes on the part of these boys to keep up a regularly functioning medical organization. These Republic County doctors also, through their secretary, said some kindly things of their Councilor, and, thank you. Only two eligible M. D.'s in the county are non-members, and one of these is retired.

Dr. Alfred O'Donnell, Councilor of the Eighth District, submitted the following report:

*To the House of Delegates:*

I beg to submit the following report from the eighth district comprised of the counties: Saline, Ellsworth, Ottawa, Dickinson, and Lincoln.

Saline County Medical Society: Number of members, 30; meetings held monthly, society active.

Ellsworth County Medical Society: Number of members, 8; meetings held quarterly, society active, Central Kansas Medical Society.

Ottawa County Medical Society: Surrendered their charter.

Dickinson County Medical Society: Number of members, 18; lost two by removal from county; meetings held third Thursday January, April, July, and October.

Lincoln County Medical Society: Number of members belonging to some society, 6; meetings held quarterly.

Geary County has been assigned to the eighth district.

Dr. Walter Stephenson, Councilor of the Ninth District, submitted the following report:



*To the House of Delegates:*

The names of paid-up members in the Northwest Kansas Medical Society are as follows: Dr. H. S. Bennie, Almena; Dr. F. W. Brewster, Oberlin; Dr. C. W. Cole, Norton; Dr. C. W. Core, Bird City; Dr. Harold Chapman, Speed; Dr. Phillip Cohn, Norton; Dr. V. C. Eddy, Colby; Dr. D. M. Forbes, Selden; Dr. A. P. Fleckenstein, Herndon; Dr. A. C. Gulick, Goodland; Dr. G. W. Hammill, Hoxie; Dr. Albert Jefferies, Jennings; Dr. J. L. Jenson, Colby; Dr. F. D. Kennedy, Norton; Dr. C. E. Long, Norton; Dr. Lottie Law, Hill City; Dr. W. C. Lathrop, Norton; Dr. B. S. Morris, Quinter; Dr. J. H. Peck, St. Francis; Dr. M. J. Renner, Goodland; Dr. E. F. Steichen, Lenora; Dr. W. Stephenson, Norton; Dr. C. F. Taylor, Norton; Dr. L. C. Tilden, Oberlin; Dr. T. J. Walz, St. Francis; Dr. D. D. Vermillion, Goodland; Dr. W. A. Grosjean, Colby; Dr. H. O. Hardesty, Jennings.

The members who died during the past year are as follows: Dr. H. W. Norrish, Logan; Dr. G. A. Van-Diest, Prairie View; Dr. F. E. Gaither, Lenora.

The number of meetings held here in past year were four.

Dr. N. E. Melencamp, Councilor of the Twelfth District, submitted the following report:

*To the House of Delegates:*

There are only three active medical societies in the twelfth district, however, practically every M.D. in the twelfth district, who is in active practice is a member of one of these societies.

The Finney County Society has a membership of thirteen members consisting of: Garden City 6; Leoti, 1; Syracuse, 2; Lakin, 1; Dighton, 1; Scott City, 2. They have monthly meetings in conjunction with the staff of St. Catherine's Hospital at Garden City, Kansas. Their programs are conducted principally by members of their own society.

The Meade-Seward Society has an active membership of fifteen. This should be brought up to twenty. Outside of the members from Liberal there are: Stevens, 2; Meade, 2; Morton, 2; Hooker, Oklahoma, 2; who have a license to practice in Kansas.

This is an active society. They have meetings every month. Most of the scientific meetings are conducted chiefly by their own members, however, they have had several scientific program with outside talent.

The Ford County Society has a membership of thirty-three. Every M. D. of Ford County is a member of the society and the balance of the membership is made up of: Gray, 3; Clerk, 3; Kiowa, 1; Hodgeman, 1; Meade, 1; Haskell, 1; Grant, 1; C. C. C. Camp, 1. Members of the adjoining counties making a one hundred per cent membership in this immediate district.

The society meets once a month and the scientific programs are conducted chiefly from outside talent obtaining speakers from the University of Kansas, Wichita, Denver, Pueblo, Colorado, and one from the Mayo Clinic.

A meeting was held in conjunction with the Cancer State Program April 1 with the attendance of seventy-five doctors from Southwest Kansas for the scientific meeting and at the lay meeting an attendance of eight hundred and fifty. Ford County Society sponsors an an orthopedic clinic conducted by Dr. J. S. Norman, of

Pueblo, Colorado, and a chest clinic conducted by Dr. Chas. F. Taylor of Norton, Kansas, which are held the second Friday of each month at St. Anthony's Hospital. It is apparent that there is a very good interest in the membership of the twelfth district, in Southwest Kansas. The membership is also pleased with the program of the State Society and with the services of the full time secretary.

Dr. R. H. Moore, Secretary of the Leavenworth County Medical Society, presented a resolution drawn up by that society, pertaining to medical affairs of the Kansas State Veterinary and asked that the Council take action upon it. Dr. Henry N. Tihen moved that action on the resolution be referred to the Council. Seconded and carried.

(To be continued in the next issue)

—JKMS—

## CERTIFIED MILK AS A SOURCE OF VITAMIN C

(Continued from page 283)

important differences exist depending on the method of pasteurization followed. At the Kansas Station the thirty minute holding process of pasteurization as demonstrated in five different types of commercial pasteurizers was found not to be well adapted to the preservation of vitamin C in milk. On the other hand, the short time high temperature process involving the use of stainless steel equipment was found to be well suited to this purpose. There was no significant destruction of the vitamin during the pasteurizing process and very little loss after the milk has been stored for twenty-four hours.

Another important consideration in the loss of vitamin C is the aging which the milk undergoes before it reaches the consumer. One of the requirements for certified milk is that it be placed in the hands of the consumer as soon after production as possible. Milk produced under approximately certified conditions in the Kansas State College herd showed twenty-two per cent loss of vitamin C at the end of twenty-four hours. This loss was accounted for in part by exposure to air in the straining and cooling processes, since milk which was taken directly from the pail and stored at forty degrees F. showed a loss of only eight per cent.

Preliminary studies also indicate that exposure to sunlight may be destructive of vitamin C. This is most apt to occur at time of delivery to the consumer. Since exposure to direct sunlight is also undesirable from a flavor standpoint, it is a necessary precaution seeing

that the milk is placed out of the sun on the consumer's doorstep.

Since fresh milk produced under the best recognized conditions has been demonstrated an important source of vitamin C, one of the problems facing the dairy industry is the preservation of this vitamin as far as possible until the milk reaches the consumer. There is already sufficient evidence to indicate that considerable success is possible in this purpose.

Furthermore, if certified milk is to maintain its splendid reputation in the great dairy industry, the future will find producers giving more and more attention to the production of a milk of high nutritive value. If the familiar certified label, in addition to guaranteeing the sanitary quality of the milk, also certifies to its vitamin A potency, its vitamin C content and other growth promoting properties, certified milk will go a long way in strengthening the enviable position it now holds in the milk production field.

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## NEWS NOTES

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### 2ND POSTGRADUATE SERIES

Announcement was received as the Journal goes to press that the second series of postgraduate lectures on obstetrics and pediatrics (see page 300) will be held in north central Kansas commencing July 27.

The event in a similar manner to the course now being given in western Kansas will consist of one meeting each week for four consecutive weeks at five accessible towns and the speakers will be Dr. L. A. Calkins, Kansas City, and Dr. Lucius Eckles, Topeka.

Upon completion of all arrangements detailed information will be bulletinized to all members in that area.

### LIASON COMMITTEES

The following bulletin was forwarded to the presidents and secretaries of the county medical societies under date of June 27:

"We have listed below a plan which has been formulated by Dr. H. L. Snyder, in collaboration with Dr. Earle G. Brown, Secretary of the Kansas State Board of

Health, and which is believed to provide a statewide and unified method wherein the Society may offer closer cooperation and assistance in the Social Security Act and other public health programs of the state:

1. That the president of each county medical society, and the members in counties which do not maintain chartered societies, appoint a Kansas State Board of Health Liason Committee composed of a chairman and two other members, one of whom is a member of the local medical economics committee.

2. That this committee be asked to serve in a liason capacity with the physicians of their county, the county health department, the Kansas State Board of Health, and other agencies engaged in public health functions.

3. That the members thereof hold themselves in readiness to confer and discuss with the representatives of local and state public health organizations all projects of that kind contemplated in their county; that thereafter they arrange to present recommendations in this connection to their society, or to local meetings of members in unorganized counties; and that they assist wherever possible in seeing that the programs thereby adopted are efficiently executed.

4. That these members particularly familiarize themselves with the provisions of the Social Security Act, and be prepared to discuss fully with either their society, or the representatives of public health organizations, the needs and possibilities thereunder in their county.

It is Dr. Snyder's thought that a plan of this kind would tend to produce many advantages for all parties concerned. That in the case of general public health programs, the organizations interested in these endeavors would be afforded official society contacts in most all counties of the state through which the practicability of contemplated activities may be discussed and fullest cooperation from the local profession be obtained. Likewise, that in the instance of the Social Security Act, various local needs may be considered and included in this program, and general aid be given toward securing an expenditure of these funds in a helpful manner for all communities.

Dr. Snyder has requested, therefore, that you appoint a committee for this purpose by July 15 if possible, and also that you notify the central office of the members appointed thereto in order that immediate efforts may be made to utilize their services.

With kindest regards,

CLARENCE G. MUNNS,  
Executive Secretary."

### OFFICIAL REPRESENTATIVES

Arrangements are now being completed wherein each county not maintaining a chartered county medical society will be asked to designate an official representative to receive Society communications, call meetings of the local profession when such is deemed advisable for consideration of activities, assist in the handling of local projects, and otherwise serve in a secretarial capacity on behalf of the Society for the physicians in that county.

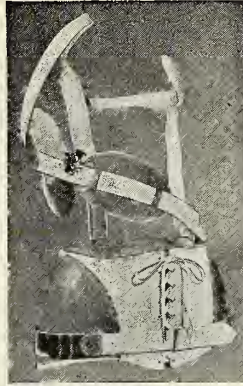
It is believed that this plan will permit an increase of the official Society contacts in the state from the present number of 70 to a total of 105, and that thereby, through the medium of local meetings and prompt action, many legislative, economic, and business functions can be expedited.



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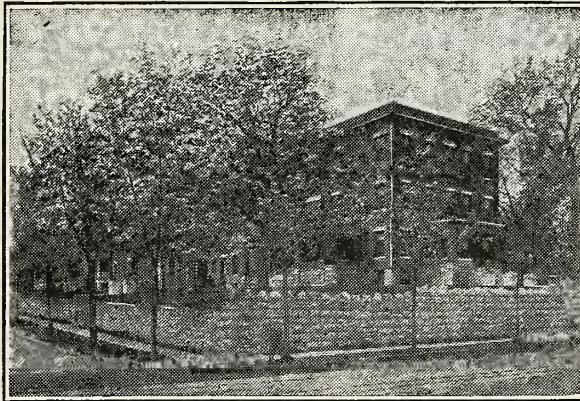
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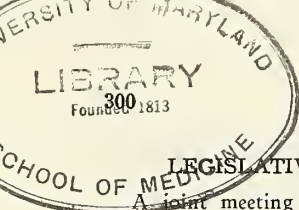
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## THE JOURNAL OF THE KANSAS MEDICAL SOCIETY

### LEGISLATIVE COMMITTEE MEETING

A joint meeting of officials of the Society and the Committee on Public Policy was held in Wichita on June 21. Legislative activities of the Society in the July special session of the legislature and in the next regular session were discussed, and a definite program in that connection was approved. Instruction was also given that the above program and other legislative recommendations be bulletinized to the county medical societies within the next several weeks.

### POSTGRADUATE COURSE

The first of a series of postgraduate courses to be financed with funds available under the Social Security Act and sponsored by the Kansas State Board of Health in conjunction with the Society's Committee on Maternal and Child Welfare commenced during the week of June 22 in Dodge City, Ness City, Norton, Goodland, Garden City and Liberal.

Plans of the event provide for Dr. Frank C. Neff, professor of pediatrics at the University of Kansas School of Medicine, and Dr. E. D. Plass, professor of obstetrics at the University of Iowa School of Medicine to present correlated discussions on pediatrics and obstetrics once a week at each of the above towns for four consecutive weeks. The schedule of meetings, consisting of afternoon session from five to seven p. m. and evening session from eight to ten p. m., is as follows:

Dodge City (St. Anthony's Hospital) June 22, June 29, July 6, July 13.

Ness City (Ness County Court House) June 23, June 30, July 7, July 14.

Norton (Norton County Court House) June 24, July 1, July 8, July 15.

Goodland (Sherman County Court House) June 25, July 2, July 9, July 16.

Garden City (St. Catherine's Hospital) June 26, July 3, July 10, July 17.

Liberal (Epworth Hospital) June 27, July 4, July 11, July 18.

Approximately 150 physicians registered for the course during the first two weeks of its operation and a great deal of interest has been evidenced in the scientific material presented.

Additional courses on similar subjects are expected to be announced in the near future for other areas of the state.

### MATERNAL COMMITTEE MEETING

The following are the minutes of the meeting of the Maternal and Child Welfare Committee meeting held in Topeka on May 29:

A meeting of the Maternal and Child Welfare Committee was held at the Kansan Hotel in Topeka at 12 M. on May 29, 1936. Members present were: Dr. H. L. Snyder, Dr. John L. Grove, Dr. J. H. A. Peck, Dr. Harry Davis, Dr. Charles Jameson, Dr. Roy Russell, Dr. C. E. Coburn, Dr. E. G. Padfield, and Dr. W. F. Bowen. Clarence G. Munns was present as Executive Secretary.

Dr. H. L. Snyder stated that the purpose of this meeting was to introduce the Maternal and Child Welfare Committee into various activities of the Social Security

Act. He described the work the Medical Economics Committee has accomplished to date on this subject, and complimented Dr. Earle G. Brown, Secretary of the Kansas State Board of Health for the splendid cooperation he has given in drafting the Kansas plans for this activity. He stressed the fact that Dr. Brown desires for the Society and the county medical societies to participate extensively in the program under the Act.

Dr. John L. Grove presented a written summary of the provisions of the Social Security Act. After extensive discussion, Dr. Roy Russell offered the following motion which was seconded and carried unanimously: That this Committee offer its services and cooperation in the Maternal and Child Welfare functions of the Social Security Act in any way desired by the Kansas State Board of Health, and that it express to the county medical societies its hope that they will likewise offer their fullest assistance and cooperation.

At 2:00 P. M. the meeting was adjourned to the Kansas State Board of Health office for the purpose of a joint conference with representatives of that organization. Additional members present at that meeting were Dr. Earle G. Brown, Dr. L. A. Calkins and Dr. John D. Clark.

Dr. Brown presented a further description of the Maternal and Child Welfare portions of the Social Security Act, and discussed in particular the postgraduate courses which are planned thereunder. He asked the Committee for its recommendations on possible districts in the state for the courses, on possible speakers, and on possible subjects. Dr. Brown's recommendation that the western one-third of the state be offered the first activity in this connection was approved. A motion offered by Dr. Jameson, seconded and carried approved all plans outlined by Dr. Brown for districts, speakers and subjects.

A motion by Dr. John D. Clark, seconded and carried, approved a recommendation to the Society Committee on Public Policy that a birth reporting law patterned after the New Jersey statute be sponsored by the Society in the next term of the legislature.

A motion by Dr. J. H. A. Peck, seconded and carried, approved the institution in Kansas of an official birth report to the State Board of Health. Discussion also followed concerning the advisability of requiring information about congenital deformities on birth certificates, and recommendation was made that procedure in this direction be studied by the Society Committee on Public Policy.

Adjournment followed.

### A. M. A. MEETING

The Journal takes pleasure in publishing the following letters which were secured from Dr. J. F. Hassig, after some persuasion, and which it is thought would be of interest to all members:

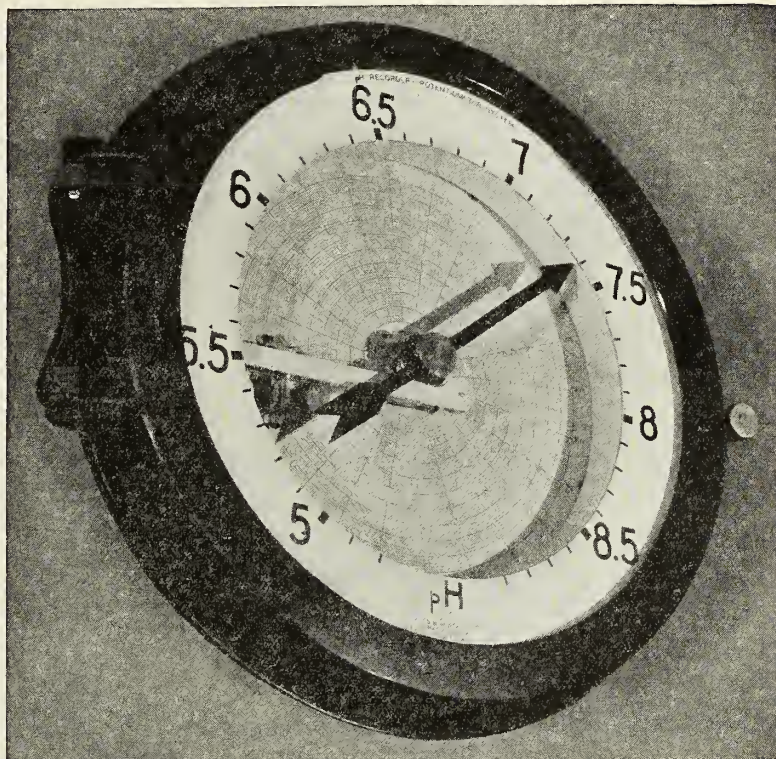
June 8, 1936.

Dr. J. F. Hassig,  
Kansas City, Kansas.  
Dear Dr. Hassig:

It has been my intention ever since the meeting of the American Medical Association at Kansas City, Missouri, was adjourned to communicate with you for the purpose of conveying to you and, through you, to The Kansas Medical Society and the county medical societies that



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acted as joint hosts, an expression of the sincere appreciation of the officers and members of the American Medical Association for the splendidly efficient work that was done by the members of the Local Committee on Arrangements from Kansas, which contributed so much to the splendid success of the meeting. My failure to write earlier has been due entirely to a great press of work and to repeated absences from the office.

The House of Delegates at its final session on Thursday afternoon, May 14, unanimously adopted a motion to the effect that the grateful appreciation of its members should be expressed to all of those who contributed to the comfort and entertainment of the physicians who attended our Kansas City Session. We continue to hear many commendatory expressions concerning the meeting at Kansas City, concerning the perfection of the arrangements so efficiently made by the Local Committee, and concerning the delightful hospitality that was so graciously extended on every hand.

I hope I may be permitted to add by own personal word of gratitude to you and other members of The Kansas Medical Society who did so much to make the occasion a most pleasant and profitable one.

With my sincere good wishes, I am

Very truly yours,

Olin West.

Dr. Olin West, Secretary,  
American Medical Association  
535 N. Dearborn Street,  
Chicago, Illinois.

Dear Dr. West:

Your letter of the 8th concerning the American Medical Association meeting in Kansas City is received.

The members of The Kansas Medical Society were extremely happy to be co-host and help in every way to make a successful meeting. The fact that 1001 members of our Society registered at the meeting shows that they were thoroughly appreciative of the opportunity to attend a meeting in our section of the country.

It is to be hoped that the House of Delegates will be kind to us again and favor us soon with another annual meeting.

Assuring you that it will be our sincere pleasure to always cooperate, and with cordial good wishes, I am,

Yours very truly,

J. F. Hassig.

#### NEW APPOINTEES

Governor Alfred M. Landon recently announced the following new appointments to the Kansas State Board of Health and the Kansas Board of Medical Registration and Examination:

Kansas State Board of Health: Dr. George I. Thacher, Waterville; Dr. H. L. Aldrich, Caney; Dr. W. J. Eilerts, Wichita; and Dr. W. C. Lathrop, Norton.

Kansas Board of Medical Registration and Examination: Dr. M. C. Ruble, Parsons.

#### PREPAYMENT CONCERN

Word was received recently that the Cooperative Health Association of Wellington, which was organized to sell prepayment contracts offering medical services and hos-

pitalization through an osteopathic hospital in that city, has abandoned operations. Foremost reason for this action was probably the fact that the Attorney General and the Insurance Commission had notified the promoters of the concern, that schemes of this type are illegal in Kansas and subject to prosecution.

#### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending June 20	Month ending May 23
Scarlet Fever .....	530	1148
Pneumonia .....	146	250
Mumps .....	137	232
Chickenpox .....	111	323
Syphilis .....	104	53
Whooping Cough .....	102	142
Gonorrhea .....	65	28
Typhoid Fever .....	59	4
Tuberculosis .....	58	62
Smallpox .....	41	143
Measles .....	34	60
Erysipelas .....	27	18
Diphtheria .....	20	52
Vincent's Angina .....	20	20
Influenza .....	14	94
German Measles .....	7	12
Cancer .....	6	5
Septic Sore Throat .....	4	9
Undulant Fever .....	4	4
Poliomyelitis .....	2	2
Meningitis .....	1	4
Pink-eye .....	0	5

#### DEATH NOTICES

Dr. T. W. Edmonds, 33 years of age, died on June 8 at Horton through an accidental shock received from an x-ray. He was born at Tina, Missouri, and entered the University of Missouri at Columbia in 1920, where he finished a pre-medical course in 1925. He entered the School of Medicine at Northwestern University in Chicago during 1926, and after graduating from there, served his internship at the General Hospital in Kansas City, Missouri. He was associated with Dr. P. T. Bohan in Kansas City, Missouri, until three years ago when he located in Horton. He was a member of the Brown County Medical Society.

Dr. Fount W. Huddleston, 53 years of age, died June 5 in Liberal. He was born in Kentucky in 1885 and attended the Louisville College of Medicine in Louisville, Kentucky, from which he graduated in 1906. Thereafter, he moved to Liberal and had practiced in that community for the past twenty years. He was a member of the Meade-Seward County Medical Society.

Dr. W. E. Royster, 66 years of age, died in Chanute on May 31. He was born in Henderson County, Kentucky in 1869, and moved to Chanute at the age of three years. He attended the University of Kansas and following his graduation moved to Spokane, Washington. Subsequently he returned to Chanute and served as superintendent of schools for three years. Retiring from this position, he studied medicine in Louisville, Kentucky, and began the practice of medicine in Chanute



# VITAMINS IN CANNED FOODS

## I. VITAMIN C

• The history of scurvy is as old as the history of exploration and conquest. Its ravages among early explorers and invaders are recorded in the oldest pages of history, due principally to the fact that during extended sea voyages or treks by land, dependence had necessarily been placed almost entirely on foods preserved by the crude methods of the day.

Scurvy was the first vitamin deficiency disease to be controlled by dietary management. In 1757, Lind recognized the fact that some substance in foods exerted a specific protective action against scurvy (1). As early as 1804, the daily lime juice ration became compulsory in the British Navy (2).

However, it remained for modern biochemical science to establish the chemical identity of this antiscorbutic factor. Vitamin C is now known to be identical with cevitamic acid (levo-ascorbic acid) and is as yet the only vitamin to be synthesized in the laboratory (3).

There would appear to be no valid reason why scurvy should ever constitute a serious threat to the health of the average American

infant or adult. Development of refrigerated transportation for raw foods and improvements in modern methods of food preservation, specifically canning methods, make available to the consumer during the entire year a large variety of foods possessed of valuable vitamin C contents. In addition, the modern trend towards education of the layman, in regard to the vitamin C requirements of both the infant and the adult, should also assist in complete eradication of infantile and adult scurvy from America.

Many canned foods are to be valued as contributors of vitamin C. Nutritional research has indicated that canned products such as the citrus fruits or citrus fruit juices (4), the more common fruits (5), and vegetables or vegetable juices, are important sources of the antiscorbutic factor (6). Modern canning procedures afford a good degree of protection to this labile vitamin, with the result that the canned food can be relied upon to supply amounts of vitamin C to the diet consistent with the amounts of the vitamin originally contained in the raw food from which it was prepared.

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(1) Vitamins: A Survey of Present Knowledge. Page 187. Medical Research Council, Special Report 167. 1932. His Majesty's Stationery Office, London.

(2) Vitamins in Theory and Practice. Page 86. L. J. Harris. 1935. Macmillan, New York.

(3) 1933 J. Chem. Soc. 136, 1419.

(4) 1930 J. Home Econ. 22, 588.

(5) 1935 Amer. Jour. Pub. Health, 25, 1340.

(6) 1933 Ind. Eng. Chem. 25, 682.

*This is the fourteenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.*



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Committee on Foods of the American Medical Association.

in 1908. He was a member of the Neosho County Medical Society.

### MEMBERS

Dr. P. C. Carson, Wichita, left the latter part of May for London, England, where he will engage in post-graduate work at the Great Ormond Street and the St. Bartholomew's hospitals.

Dr. Ralph S. Casford, formerly of Sedan, has established his offices in Kansas City, Kansas, where he will take over the practice of the late Dr. Guy Smith.

Dr. Sherborne MacLeod, Wichita, recently resigned as county physician of Sedgwick County to enter private practice in Wichita.

Dr. M. T. DeMott, Phillipsburg, and Dr. G. R. Hastings, Lakin, have recently been named as health officers of their respective counties, Phillips and Kearny.

Dr. H. R. Ross, Topeka, attended the Conference of State Directors of Maternal and Child Health held in Washington, D.C., on June 6 and 7.

Dr. E. M. Seydell, Wichita, has been selected to conduct a teaching course at the outstanding Post-Graduate Medical Assembly to be held at Houston, Texas, next December.

### COUNTY SOCIETIES

A joint meeting of the Brown County Medical Society and the Brown County Dental Study Club was held in Hiawatha on June 26. Dr. E. K. Lawrence, presided over the medical section, and Dr. G. L. Teall, over the dental section of the meeting. Dr. L. R. Kramer, of the state health department, spoke on "Oral Hygiene, Examination of School Children"; Dr. Roger W. Moore, St. Joseph, Missouri, on "Immunization Against Contagious Diseases"; and Dr. J. R. Ryan, St. Joseph, Missouri, on "Trigeminal Neuralgia, Its Operative Treatment."

The Butler-Greenwood County Medical Society met in Eureka on June 19 with Dr. E. H. Skinner, Kansas City, Missouri, as the guest speaker. His subject was "Practical Professional Methods for Control of Cancer."

Approximately eighteen physicians from Galena, Baxter Springs, Columbus, and Weir, attended the Cherokee County Medical Society meeting held in Galena on June 4. "Reportable Diseases" was the topic discussed.

Dr. Raymond Gelvin, Concordia, was the guest speaker at the Clay County Medical Society meeting held in Clay Center on June 8. His talk, which was illustrated with motion pictures, was on "The Management of Acute Epyema."

At the regular meeting of the Coffey County Medical Society held in Burlington on June 4, Dr. A. B. McConnell, Burlington, was elected to the office of secretary in the place of Dr. H. C. Tomlinson, who recently moved away. The evening was spent in discussing medical economics, WPA nursing, and other activities.

Members of the Ford County Medical Society held a dinner-meeting in Dodge City on June 12. The program consisted of a motion picture made under the direction of Dr. Joseph De Lee of the Chicago Lying-in hospital entitled "Novocain Anesthesia in Obstetrics" and a talk by Dr. A. E. Hines, Jr., Mayo's Clinic, Rochester, Minnesota, on "Essential Hypertension." Dr. J. S. Norman and Dr. C. F. Taylor, Norton, held

orthopedic and tuberculosis clinics respectively during the day.

The Golden Belt Medical Society held their regular quarterly meeting in Manhattan on July 2 starting with golf at 3:00 p. m. and ending with a dinner and meeting at 6:00 p. m. Speakers and their subjects on the program were as follows: Dr. P. T. Bohan, Kansas City, Missouri, "Tobagism: Its Clinical Manifestations"; Dr. Sam Osborne, Kansas City, Missouri, "The Management of Acute and Chronic Gonorrhea"; Dr. C. E. Joss, Topeka, "Thyroid Dysfunction"; and Dr. K. F. Bascom, Manhattan, "Some Aspects of the Anatomy and Physiology of the Testis."

A meeting of the Johnson County Medical Society was held in Olathe on June 17. Dr. F. L. Loveland, Topeka, and Dr. H. L. Chambers, Lawrence, were guest speakers. Several business matters were presented and the society voted to institute a liaison committee on public health.

Members of the Reno County Medical Society held an afternoon and evening meeting on May 27 at the Carey Lake Country Club in Hutchinson. Events of the day began with outdoor sports at 3:00 p. m., continued through the afternoon and ended with a dutch lunch and a scientific program. Dr. John Dillon, Larned, spoke on "The Psychiatric Point of View," and Dr. R. Y. Jones, and Dr. J. J. Brownlee, both of Hutchinson, gave respectively, a lantern slide demonstration of "Case Studies in Endocrinology" and a motion picture on "Winter Sports."

Dr. Ralph Fellows, Dr. H. L. Kirkpatrick and Dr. H. N. Roback, all of Topeka, were guest speakers on the program of the Southeast Kansas Medical Society meeting held in Independence on June 24. Their topics were respectively "The Use of Sedatives," "Acute Otitis Media," and "Inflammation of the Central Nervous System." An election of officers was also held as follows: Dr. Lyle Schmaus, Iola, president; Dr. Frank Moorhead, Neodesha, vice-president; and Dr. A. R. Chambers, Iola, secretary-treasurer.

Marshall County Medical Society held a business meeting on June 11 upon which action was taken on several matters as indicated by the following report from Dr. Henry Haerle, Secretary: "At the regular monthly meeting of the Marshall County Medical Society, held in Marysville June 11, 1936, it was decided: That the society go on record as being opposed to the Journal using any advertisement, not pertaining to our profession; that at our July meeting we will entertain all candidates for Representatives and Senators in our district and at this time inform them of our stand in regard to the proposed Basic Science Bill. The society voted to oppose the project sponsored by the WPA to furnish free nursing to needy patients. Also to not sponsor the Nursery School Project of the Kansas WPA. The following members volunteered to act as alternative speakers: Dr. W. R. Breeding, Contagion, Dr. J. W. Randall, Surgery, Dr. B. W. Lafene, Internal Medicine. The society voted to pay expenses for any member speaking before any society."

Marion, Harvey, and McPherson counties held a joint meeting in Newton on June 1. Dr. LaVerne B. Spake, Kansas City, presented a paper on "Acute Infections of the Ear and Mastoid"; Dr. John A. Billingsley, Kansas City, spoke on "Acute Inflammations of the Eye"; and Dr. Fred E. Angle, Kansas City, discussed "Undulant Fever and Its Treatment."



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### OFFICES:

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El Dorado, Kansas

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At an election of officers of the Sedgwick County Medical Society held on May 19 in Wichita, the following were elected to serve for 1937: Dr. James Wallace Shaw, president; Dr. J. E. Wolfe, vice-president; Dr. F. L. Menehan, secretary; and Dr. H. R. Hodson, treasurer.

The Wabaunsee County Medical Society held its monthly dinner-meeting in Alta Vista on May 29.

The regular monthly dinner-meeting of the Washington County Medical Society was held in Washington on May 25.

The Wilson County Medical Society met in Benedict on June 8 in the office of Dr. R. B. Riley.

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## AUXILIARY

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Edited by Mrs. W. G. Emery, Press Publicity Chairman

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### PRESIDENT'S MESSAGE

Dear Auxiliary Members:

Most of the Auxiliaries are not functioning through the summer months. However, the state chairman of the standing committees are already formulating plans for the county chairman. How splendid it is to get into the harness and be ready to start work in the fall. I would like to encourage each chairman to avail herself of the material prepared with great care and thought for her assistance by the National Chairmen.

I am requesting each chairman of county press and publicity to send reports and newspaper clippings, dealing with Auxiliary activities, to Mrs. W. Gordon Emery; 23 South 18th Street; Kansas City, Kansas.

The following state chairmen of the standing committees have been appointed by the president:

Archives—Mrs. Jonathan B. Carter, Wilson.

Health-Education—Mrs. A. C. Flack, Fredonia.

Historian—Mrs. C. B. Van Horn, 1321 Filmore, Topeka.

Hygeia—Mrs. T. D. Blasdel, 1400 Morgan, Parsons.

Legislative—Mrs. E. C. Duncan, 302 North 11th Street, Fredonia.

Organization—Mrs. Milton O. Nyberg, 3221 Victor Place, Wichita.

Parliamentarian—Mrs. E. J. Nodurft, 1844 Wellington Place, Wichita.

Press-Publicity—Mrs. W. Gordon Emery, 23 South 18th St., Kansas City, Kansas.

Public Relations—Mrs. G. A. Spray, 1406 Woodrow, Wichita.

Mrs. L. B. Gloyae.

—JKMS—

The members of The Kansas Medical Society will confer a great favor to their Auxiliary if each and every one will take home to their wives their copy of the Journal.

Items and communications must be in the hands of Mrs. W. Gordon Emery, 23 South 18th Street, Kansas City, Kansas, not later than the twentieth of each month to insure insertion.

The columns will be interested in news of individual

members as well as the county Auxiliaries. If Mrs. Blank is given a prominent place in any club or civic organization, if she reads a paper before some club, if she wins distinction in any way it is of interest to all state Auxiliary members, because she is directly or indirectly furthering the work of Auxiliary.

When Auxiliaries participate in any civic enterprise, clinics, Girl Scout work, Legion Auxiliary, political activities etc., please send the news. Of course Auxiliary meetings should be reported. Deaths, marriages and births are of great interest.

The ladies of the Brown County Auxiliary cooperated with the county health office and the associated womens clubs in Hiawatha at the June pre-school examination of children. The Auxiliary ladies were assigned as hostesses.

Officers, chairmen and interested members cannot do better than to study the outline of plans suggested at the joint meeting of the Advisory Board and the Auxiliary Executive Board.

There has been a hesitancy in the past by many Auxiliary members to support an aggressive campaign. This subject was placed before some of the national officers in conversations at the Kansas City convention. The reply was prompt and emphatic. It was, in effect, that the day when doctors and their allies should keep in the background because of exaggerated dignity or time moulded tradition was past. No one can educate the public in modern health conservation as well as those best posted in things medical, namely the medical families of our communities.

The Publicity Chairman would be glad to know where her Auxiliary friends are spending their vacation. She believes that other Auxiliary members, also, would be happy to receive this news. You vacationing doctors wives, will you not kindly drop me a card telling me where you are enjoying cool breezes, good fishing, nice porch parties or whatever you are doing?

I wish that members, absentees from the Kansas City convention, could have come in contact with the National Officers and Chairmen, any or all of them, to witness the tremendous enthusiasm and energy these ladies bring to their work. It is women of this type which makes Auxiliary progress. As Auxiliary progresses so are we all participants of increased benefits. We cannot all work as these ladies work, but we can, if we will add at least each her mite. If we will all do this our rewards individually and collectively will be greatly increased. Paying dues and attending meetings is greatly to be desired, but that is only a fraction of what we should do. Active work in self-education and public education, cooperation in aggressive programs to bring our gospel to the public is needed.

—JKMS—

Mrs. T. D. Blasdel, president of Labette County Medical Auxiliary, was hostess to the Auxiliary members last night in her home for the regular monthly meeting. Excellent reports of the recent sessions of the American Medical Association and Woman's Auxiliary to the American Medical Association held in Kansas City were given by Mmes. C. S. McGinnis, Charles Miller, L. A. Proctor, H. C. Markham, M. C. Ruble, R. W. Urie, T. D. Blasdel and N. C. Morrow.

Mrs. Proctor gave a review of the address delivered by Mrs. David Long, whose home is near Kansas City, at last September's meeting of the Southwestern Medical



# DIARRHEA

## "the commonest ailment of infants in the summer months"

(HOLT AND McINTOSH: HOLT'S DISEASES OF INFANCY AND CHILDHOOD, 1933)

One of the outstanding features of DEXTRI-MALTOSE is that it is almost unanimously preferred as the carbohydrate in the management of infantile diarrhea.

### SERIOUSNESS OF DIARRHEA

There is a widespread opinion that, thanks to improved sanitation, infantile diarrhea is no longer of serious aspect. But Holt and McIntosh declare that diarrhea "is still a problem of the foremost importance, producing a number of deaths each year. . . ." Because dehydration is so often an insidious development even in mild cases, prompt and effective treatment is vital. Little states (Canad. Med. A. J. 13: 803, 1923), "There are cases on record where death has taken place within 24 hours of the time of onset of the first symptoms."

In diarrhea, "The sugar is added gradually, conditions admit, some sugar other than milk sugar or cane sugar being used, preferably dextrin sugar or maltose."—H. E. Small: *Diarrhoea in bottle-fed infants*, J. Maine M. A. 12:152-158, Jan. 1932.

In diarrhea, "Carbohydrates, in the form of dextrin-maltose, well cooked cereals or rice, usually can be handled without trouble."—B. B. Jones: *A discussion of some of the commoner types of infantile diarrhea, and the principles of the diets used in their treatment*, Monthly, 56: 411-412, 1932.

"The most desirable sugar is least apt to become fermentative."—A. J. Blau: *The use of protein milk*, J. Maine M. A. 12:152-158, Jan. 1932.

Concerning the treatment of diarrhea, it is an indication that weight remains stationary, it is an indication that loss of substance is occurring through the stools, mostly in the form of alkaline salts. To equalize this loss of substance, the diet must be increased, in such a way as to avoid causing fermentation. This may be done by adding dextrin-maltose and preparations of protein to the food, increasing the calories until the infant is taking 160 calories per kilo, of body weight."—H. L. Ratnoff: *Nutritional disturbances*, Arch. Pediat., 41:771-772, Nov., 1924.

"In the treatment of diarrhea, it is an indication that weight remains stationary, it is an indication that loss of substance is occurring through the stools, mostly in the form of alkaline salts. To equalize this loss of substance, the diet must be increased, in such a way as to avoid causing fermentation. This may be done by adding dextrin-maltose and preparations of protein to the food, increasing the calories until the infant is taking 160 calories per kilo, of body weight."—H. L. Ratnoff: *Nutritional disturbances*, Arch. Pediat., 41:771-772, Nov., 1924.

"In cases of malnutrition and indigestion, the appetite improves rapidly, and the stools soon become normal in appearance, if the sugars are intelligently prescribed. By this I refer to proper proportions of dextrin and maltose. When there is a tendency to looseness, I have used the preparation known as 'dextrin-maltose' for the treatment of infants and children, Arch. Pediat., 41:771-772, Nov., 1924.

"After the preliminary short period of starvation, protein milk should be used. . . . When the infant has been sufficiently checked, dextrin-maltose may be added and gradually increased until from 4 to 6 tablespoons are being used."—W. L. Denney: *Acute nutritional disturbances of infancy*, Univ. West. Ontario M. J., 2:152-157, April, 1932.

"When sugar causes diarrhea one can change the form of it. Mead's Dextrin-maltose, in small doses is more quickly absorbed and so superior to castor (cane) sugar. Lactose is expensive and seems not to be better than castor sugar."—H. B. Gladstone: *Infant Feeding*, 1925.

"Milk-sugar, which has been so extensively used in the past, should never be used where there is any digestive disturbance. It is not as easily digested as either cane-sugar (granulated sugar) or dextrin-maltose. The latter is the best of all for infants, especially if there is any tendency to looseness of the bowels."—A. Brown: *The Normal Child; Its Care and Feeding*, F. D. Goodchild Company, Toronto, 1923, p. 120.

"For cases of fermentative diarrhea, . . . the ideal plan of treatment would be to give a food of organisms thrive on) and high in protein. Calcium caseinate milk accomplishes this purpose. In our series of cases, we found it was necessary then stopped it and added dextrin-maltose to the formula."—A. C. DeSanctis and L. V. Pader: *The value of calcium caseinate milk in fermentative diarrhea*, Arch. Pediat., 47:344-354, June, 1930.

Regarding the treatment of diarrhea, "In our experience, the most satisfactory carbohydrate for routine use is Mead's dextrin-maltose No. 1."—F. R. Taylor: *"Summer Complaints," Southern Med. & Surg.*, pp. 555-559, August, 1927.

"In cases of diarrhea, 'For the first day or so no sugar should be added to the milk. If the bowel movements improve carbohydrates may be added. This should be the one that is most easily assimilated, so dextrin-maltose is the carbohydrate of choice.'"—W. H. McCaslan: *Summer diarrheas in infants and young children*, J. M. A. Alabama, 1:278-282, Jan., 1932.

"There is any tendency to sugar fermentation, use a preparation with a high dextrin and relatively low maltose content, as Mead's dextrin-maltose."

"If it is desired to feed an unusually large amount of sugar to a baby, it is well to use a maltose-dextrin preparation, as in this way there is less danger of bringing about sugar fermentation than if lactose were used."—L. W. Hill: *Practical Infant Feeding*, W. B. Saunders Co., Phila., 1922, p. 206.

"The young baby, usually one-third milk and two-thirds milk, usually skinned at first, and a half ounce of Dextrin-Maltose as the carbohydrate. We prefer Dextrin-Maltose as the carbohydrate, most easily digested. . . . Preparations containing most easily absorbed, but the more maltose are more rapidly absorbed, but on the other hand, are more liable to produce diarrhea. . . . Lactose which was very popular at one time, is never used in our work. The consensus of opinion seems to be that milk sugar is often a source of indigestion in normal infants and the primary cause of fermentative dyspepsias in infants."—J. H. Reading, Jr.: *Artificial Infant Feeding*, 1923.

"Protein milk may be continued for several weeks when a gradual transition to a whole milk or evaporated milk formula, which will supply about one and one-half to two ounces of whole milk to every pound of body weight, is reached. This also should finally have the addition of dextrin-maltose amounting to five to seven per cent."—R. A. Strong: *Summer diarrheas in infancy and early childhood*, Arch. Pediat., 47:344-354, June, 1930.

"In the treatment of diarrhea, 'Dextrin-maltose' is rapidly absorbed and so superior to castor (cane) sugar. Lactose is expensive and seems not to be better than castor sugar."—H. B. Gladstone: *Infant Feeding*, 1925.

"I begin to add carbohydrates slowly, by replacing 1/4 ounce Casein every two days with 1/4 ounce of Dextrin-Maltose, preferably Dextrin-Maltose Number one. As a rule, this is tolerated. When one ounce of Dextrin-Maltose is used, the Casein, of course, should be discontinued."—J. W. Reed: *The Etiology and Treatment of Diarrhea*, 1925.

"When sugar causes diarrhea one can change the form of it. Mead's Dextrin-maltose, in small doses is more quickly absorbed and so superior to castor (cane) sugar. Lactose is expensive and seems not to be better than castor sugar."—H. B. Gladstone: *Infant Feeding*, 1925.

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The members discussed the standard milk ordinance and Mrs. Morrow who attended a conference regarding the ordinance at the Municipal Building gave a report of the meeting. A poster on "Hygeia," the study subject for the Auxiliary, designed by Miss Elizabeth McGinnis, Parsons, was exhibited. The poster also was shown at the Kansas City medical meeting several weeks ago, bringing much comment.

If for no reason but to assemble regularly and study the history of the Medical Arts and the Medical Heroes, an Auxiliary would be worthwhile, because it would give wives an understanding of the supreme unselfishness and the greatness of the profession.

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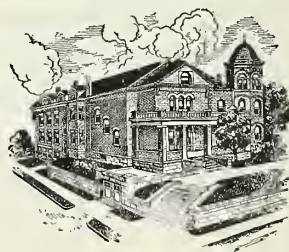
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# THE JOURNAL

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### DIABETES MELLITUS IN PREGNANCY

JAMES G. Stewart, M.D.

Topeka, Kansas

It is to be expected that with the great number of diabetic married women who are in the child bearing age there always has been and will continue to be pregnancies in these cases. The danger of pregnancy in diabetes was extreme before the discovery of insulin. We find that coma was the most serious complication causing the death of from twenty-five to thirty per cent of women at delivery or shortly thereafter; infection took more lives and women who survived were likely to die later from the aggravation of the diabetes. Patients escaped death only if the disease was of a mild form.

The outlook today is far less serious and with proper treatment with a weighed diet and the proper amount of insulin a great many pregnancies can be carried to term without the extreme danger which existed before the use of insulin. Even with this improvement however, the infant mortality rate according to certain authorities is 45.2 per cent. Consequently we still have a very serious situation on our hands.

Since the desire for children is common to wives in the child bearing age, it is quite natural for the family physician, the obstetrician, or the internist to be consulted by the diabetic woman who wishes to have children. She wants to know if it is safe for her and also what are the chances of her having a normal child. I think it is the physician's duty to tell this patient exactly what her chances are for herself and her baby. We divide diabetics into three classes: 1. Mild diabetics or those who can be controlled on a diet alone without insulin; 2. Moderately severe diabetics or those who can be controlled on re-

latively moderate amounts of insulin; 3. Severe diabetics, those who take large amounts of insulin and who show periodic diacetic acid and acetone. We know that as soon as pregnancy exists the amount of insulin has to be increased. We also know that if there is any vomiting at best we will have a degree of acidosis, consequently I think that the only safe rule to go by is to advise the mild diabetic that the chances are fairly good, but even today the moderately severe and severe diabetics should be advised against planning to have children.

The obstetrician is confronted almost daily with the problem of glycosuria of pregnancy. This, of course, is generally easily proven by a fasting blood sugar followed by a sugar tolerance test.

The problem with which we have to deal is that of a diabetic woman in the child bearing age who finds that she is pregnant. She may have been told of the dangers of pregnancy in her case and she comes to the obstetrician for advice as what to do. The obstetrician generally sends these cases to the internist who goes over the history of the diabetic trouble very carefully ascertaining the family history as to diabetic tendency; whether she has had treatment for her diabetes previous to her pregnancy; whether she has taken insulin previous to her pregnancy, and if so how much and what her diet has been. He also inquires whether or not she has been under the care of a physician who has checked her condition regularly. After this is accomplished the patient should preferably be hospitalized and put on a basal diet plus about fifteen per cent with a proper amount of insulin to see if a normal fasting blood sugar can be obtained, also to see if there is any diacetic acid and acetone in the urine, as well as to see the amount of  $\text{CO}_2$ . I think if we have a high fasting blood sugar with a carefully weighed

diet and fairly frequent suggestion of insulin shock where the insulin is given three times daily, also where diacetic acid and acetone are present and we have a somewhat diminished  $\text{CO}_2$ , it is the internists duty to refer the patient back to the obstetrician with the advice that a therapeutic abortion be performed to save the life of the patient. However, if there can be a good control of the blood sugar and there is none or very infrequent diacetic acid or acetone found in the urine after sufficient observation of the patient, I think that very probably this patient could go through a pregnancy and have a normal child.

A short time ago a woman of thirty years of age was referred to me by Dr. H. J. Davis for my opinion as to whether or not she could, with safety to her life and that of her baby, continue through a pregnancy. She was two and one half months pregnant, she had been married seven years, and this was her first pregnancy. In 1930 she was first diagnosed as a diabetic and for about six months was able to have a normal fasting sugar by diet alone. At this time she had a slight illness following which it became necessary to give her insulin. Since then she has required increasing amounts of insulin and a carefully selected and weighed diet. When she first came to the obstetrician to see if she were pregnant she was found to have a fasting blood sugar of 400 mg per 100 cc of blood. Ten days following the blood sugar was 317 mg per 100 cc blood, in spite of the fact that the insulin had been increased from forty units per day to eighty units per day, during these ten days she had been on a basal diet plus fifteen per cent. There was also four plus sugar (morning specimen) with diacetic and acetone present. Again the urine showed sugar at 5:00 p. m. with trace of diacetic acid and acetone. With these findings after following the case for ten days with slight insulin reaction, I advised the obstetrician that it was my opinion that the woman should be hospitalized and a therapeutic abortion be performed.

In going over the family history I found that the father was fifty-seven years of age, living and in good health. The mother fifty-six in good health, one brother thirty-four living and in good health and one sister twenty-three and in good health. The patient could remember no relative who was or had been a diabetic. She had had the usual diseases of childhood, and since childhood had had peri-

odic mild attacks of arthritis. In 1932 she had a severe attack of pyelitis with complete recovery. No other illness except an occasional cold.

On the morning of February 6, 1936, I came to the hospital to be present while Dr. Davis performed a curettement for the removal of any membranes still retained in the uterus. The patient was given a very short ethyl chloride-ether anesthetic and a few membranes removed. In the afternoon about 3:30 p. m. the patient having considerable nausea forty units of insulin was given and twenty-five grms of glucose given in 175 cc of distilled water. This did not seem to stop the vomiting and about 7:00 a. m. on February 7 the patient showed more positive symptoms of acidosis. At 8:00 a. m. forty units of insulin was given followed by twenty-five grms of glucose in 150 cc of distilled water. At 11:00 a. m. thirty units were followed by twenty-five grms of glucose in 150 cc of distilled water. The respiration was somewhat rapid and she complained of pain in the region of the pancreas. At 1:35 p. m. thirty units of insulin was given and twenty-five grms glucose in 150 cc of distilled water—5:30 p. m. thirty units insulin given with twenty-five grms glucose in 150 cc distilled water. The patient was improved and respiration became more normal. February 9, twenty units of insulin given, patient able to take tea and toast for breakfast at 7:00 a. m. Blood sugar 345 with one plus acetone and one plus diacetic acid. At 9:35 a. m. forty units of insulin given, with fifty grms of glucose in 200 cc distilled water. The  $\text{CO}_2$  was twenty-eight. At 11:30 a. m. twenty-five units of insulin given with twenty-five grms of glucose in distilled water. At 5:30 p. m. fifty units of insulin given and 200 cc of distilled water. At this time the right parotid gland was badly swollen and the left slightly so. With the increasing swelling of the parotids the amount of insulin had to be increased, and from thirty to fifty units of insulin was given three times during the day and again at 11:00 p. m. The  $\text{CO}_2$  had fallen to twenty-two. The right parotid ruptured into the ear canal on the night of February 11 and there was a thin purulent drainage. On account of the low  $\text{CO}_2$  large amounts of Na Cl were given intravenously and on February 12 Hartmans solution was given along with the glucose. Otological and surgical consultations advised and an incision was made into



the right parotid but no pus obtained. However, on February 14 on removing the scab the drainage was free. The patient during the past few days had been irrational part of the time. The pain in the parotids was controlled by codine. She was also given daily x-ray treatments over the parotids which helped very materially. Patient was given skimmed milk. (Milk, eight oz. to one of orange juice.) On February 15 the  $\text{CO}_2$  was fifty-eight and it was the first day that the patient was able to continue through the day and night on a diet without intravenous treatment. A small wick of gauze was kept in the ear and another in the external opening in the right parotid for as long as any drainage could be obtained. From the fifteenth until the twenty-fifth of February the patient was put on a fairly liberal carbohydrate diet as it seemed necessary to combat an acidosis. Twenty units of insulin was given before each meal and fifteen units at 11:30 p. m. This amount had to be reduced to sixteen units T. I. D. on February 19 with the 11:30 dose discontinued as the patient's activity increased. She was discharged on February 24 in good condition, with instructions for fourteen units three times daily, and was seen at her home on March 2 and insulin had been cut to twelve units T. I. D.

1. This case demonstrates very clearly what a serious problem pregnancy is in a severe diabetic.

2. The danger of anesthesia in a severe diabetic.

3. The increased severity of symptoms in diabetes complicated by infection of any kind.

#### SUMMARY OF TREATMENT OF ACIDOSIS

The principles for the rational treatment of acidoses have been summarized by Marriott.

1. To restore the body fluids.

2. To return the removed base.

3. To aid the proper oxidation of the ketones or other organic acid present. To accomplish these purposes, Hartman has designed a combined solution for use which consists essentially of Ringers solution to which sodium lactate has been added.

—JKMS—

It is better to have a less accurate diagnosis and a more favorable prognosis.—Arthur Curtis.

—JKMS—

Man as an animal has to eat to live, but as an omnivorous epicure he frequently lives to eat.—Charles H. La Wall.

## THE TOXICITY OF CINCHOPHEN-CLINICAL STUDY

GEORGE A. WESTFALL, M.D.

Halstead, Kansas

Since Schraeder of Germany<sup>1</sup> reported the first case of cinchophen poisoning, the literature has been full of warnings concerning its use. Many cases have been reported and some teachers have gone so far as to state that the prescribing of cinchophen should be the basis for a malpractice suit. For this reason I have reviewed, clinically, the cases to which we have given cinchophen in the Hertzler Clinic during the last decade.

While we have had a few cases of cinchophen poisoning in this clinic, and several cases suggestive of cinchophen toxicity, we also have had many other cases, who were living a miserable existence, receive very prompt and definite benefit from its use. It is the drug par excellence for gout. Also, I am sure we have had many cases of lumbago, arthritis, neuritis, etc., to whom it would have been necessary to give opiates, had we not given them cinchophen.

Cinchophen or phenylcinchoninic acid was discovered in 1887 by Doeber and Giesche and has been used very extensively in medicine ever since. It has, first, a specific action of increasing the urinary output of uric acid, and second, a not so specific action of analgesia on tendons and bones. It also stimulates the production of bile. Many toxic reactions have been attributed to the drug. In 1913 Phillips<sup>2</sup> described a skin rash from its use. In 1922 Schroeder<sup>1</sup> called attention to the danger of liver damage. Since then altogether about 300 cases of acute yellow atrophy from its use have been reported in the literature.

While we have had no definite laboratory proof that cinchophen will produce liver damage, cinchophen poisoning has been reported all over the world. The evidence so far is entirely clinical and hypothetical. Lehman and Hanzlik<sup>3</sup> have conducted extensive experiments with rabbits to produce demonstrable liver damage with cinchophen, but failed. Many workers are conducting experiments with this drug at the present time. There are, however, too many cases of acute yellow atrophy following its use, now reported, to leave any doubt that some cases do occur.

The point is this, should we entirely do away with cinchophen and classify it as a poison, or should we accept its occasional toxic action as one of the hazards of therapy, like we do in many other therapeutic procedures. Nobody advocates that appendectomies be discontinued because the surgeon occasionally loses a case.

I studied 2,467 cases from our clinical files to whom cinchophen had been given during the last ten years. From these I had subsequent reports from 1,589. Data is compiled only from the 1,589.

These patients received from 25 to 4000  $7\frac{1}{2}$  gr. tablets of cinchophen: 886 cases received between 25 and 100 tablets; 195 received between 250 and 500 tablets; forty-seven received between 500 and 1000 tablets; eleven received between 1000 and 1500 tablets; eight or ten of the cases received more than 1000 tablets and the rest less than twenty-five. Several took the drug daily for three or four years.

One patient, Mrs. K., received 45  $7\frac{1}{2}$  gr. tablets. She developed acute yellow atrophy and died. Autopsy showed acute yellow atrophy of the liver with fatty degeneration. She had a previous gallbladder attack. Her mother also had gallbladder attacks.

Two patients, Mrs. A and Mrs. C., developed jaundice after taking cinchophen but recovered with bed rest and high carbohydrate diet. Mrs. A. had a history of previous pelvic infection and the diagnosis might well be questioned. She had received 300  $7\frac{1}{2}$  gr. tablets previously.

Three died elsewhere with a diagnosis of carcinoma of the liver, after receiving cinchophen. In one patient a diagnosis of malignancy of the pancreas had been made in this clinic a few weeks before death in spite of the fact the patient had received cinchophen a while before his jaundice appeared. These three patients never were operated nor went to autopsy and no primary malignant lesion was even definitely diagnosed. It is possible that all three had acute yellow atrophy.

Eighty-nine patients complained of stomach symptoms which cleared up when cinchophen was discontinued. Eight patients complained of a burning rash. Five patients had hives while taking the drug. One said the medicine caused chills, probably nervous. One thought it produced a gallbladder attack. One had dizzy spells. Of the remaining patients, none com-

plained of any toxic symptoms.

In this series no attempt was made to study the therapeutic value of the drug.

We have a very definite routine of administering cinchophen in this clinic and believe it is of value in keeping down the toxic effects of this drug. Several years ago Hertzler suggested that all of the day's dosage be given at one time. This we do, giving three  $7\frac{1}{2}$  gr. tablets after supper. If they fail to eat their evening meal, they are not to take this medicine.

Chace and Fine<sup>4</sup> twenty-two years ago suggested that soda be given with the drug. We believe this is of decided value to prevent gastric distress and give a teaspoonful with the daily dosage. Although the drug is a cholagogue, never give it to a patient who has had liver damage.

Never give it to a patient who is on a restricted carbohydrate diet. A good glycogen reserve is necessary. Never give it to a patient having gastric distress. Always stop medicine if gastric distress occurs while taking the drug.

It is best not to give it with the heavy metals, mercury and arsenic particularly. We have frequently given it in conjunction with syrup of ferrous iodide with no toxic symptoms.

Johnson<sup>5</sup> has called attention to asthma and anorexia as a danger signal of toxicity.

#### SUMMARY

We accept the view that the administration of cinchophen is not without some risk.

We believe that this risk is so small compared to the benefits, that with the reservations mentioned it may be given with impunity.

We believe that the routine of administering the drug followed in this clinic materially lessens the danger.

The association of liver disease should not be accepted as caused by cinchophen without proof of relationship.

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—JKMS—

In pneumonia the disease is in the lungs, but the danger is in the heart.—Lindsay.

—JKMS—

Where there is love of humanity, there also is love for the art of medicine.—Hippocrates.



## OSTEOMYELITIS OF THE SPINE

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### PART II

(Continued from the July Issue)

#### DIAGNOSIS

The diagnosis of osteomyelitis of the spine is often difficult as is suggested by the small number of cases reported in the literature. This difficulty is explained by the manifold variations with which the disease may be ushered in and the tendency for complications to mask the original syndrome. The authors have treated four definite and two probable cases of osteomyelitis of the spine in the last forty months, whereas only eighteen cases of tuberculosis of the spine were encountered during this period. In four of these the diagnosis is still presumptive. In the Steindler clinic, Kulowski notes that the incidence of tuberculous spondylitis as compared with osteomyelitis of the spine is but 2:1, now that they are on the lookout for the condition. One of the authors well remembers a case in the Steindler clinic, fused for tuberculosis of the spine, who later returned with a draining sinus due to osteomyelitis of a long bone, at which time careful analysis of the case revised the original diagnosis to osteomyelitis of the spine. This same author while visiting in one of the large eastern clinics was shown a "rare" case in which an osteomyelitis of the femur occurred in a case of tuberculosis of the spine. Examination of the roentgenograms of the spine revealed the destruction of two of the vertebral bodies, but there was much proliferative response and extensive bridging between the vertebrae. Undoubtedly, the condition was one of osteomyelitis both of the long bone and of the spine. Smith reported seventeen cases of chronic osteomyelitis, eleven of which were diagnosed as tuberculosis by orthopedic surgeons of recognized standing. Pyogenic joint infection may be misinterpreted as due to tuberculosis, so similar mistakes may be made with reference to the spine.

Before more accurate studies can be made with reference to the incidence, prognosis, and treatment of this condition, the general prac-

titioner, and the specialist, must be trained in making accurate and early diagnosis.

It is essential that the physician be familiar with the whole problem and the complications, which may present such variable signs and symptoms. In most instances an absolute diagnosis will be impossible, since this will require bacteriological or microscopical examination, or both. However, the other factors available, if closely studied, will assist in making a presumptive diagnosis.

A most careful history of the case is important, since at times this will follow the story encountered in osteomyelitis elsewhere. Wherever an abscess points in the back, osteomyelitis of the spine must be ruled out. If in draining such an abscess, bare bone is felt, especially if small sequestrae are encountered, the diagnosis of osteomyelitis of the spine should be considered. A psoas abscess, due to this condition, may cause tender, enlarged inguinal glands, associated with homolateral psoas spasm. In fact, the psoas abscess may have to be inferred from these signs, since even larger collections of pus are often difficult to palpate. At times, the lumbar roots may be involved by inflammatory changes, resulting in the symptoms of an "acute abdomen", namely, abdominal distension, pain and rigidity. Further, costovertebral tenderness, with local mass or spasm of the lumbar muscles, and purulent urine may prompt the diagnosis of perinephritic abscess (Klein). Since this is a frequent metastatic lesion the diagnosis may be doubly difficult. Lazarus reported two cases of osteomyelitis of the spine which simulated perinephritic abscess. The writers have encountered one case of osteomyelitis of the spine, with perinephritic abscess as one of the complications. One of us, while in the Steindler clinic, diagnosed a case as perinephritic abscess, though the patient had a multiple osteomyelitis. The general surgeon, to whom the case was referred, returned it with a diagnosis of osteomyelitis of the spine, which was verified by exploration. It must be remembered that these ossifluent abscesses may travel some distance before they become apparent in superficial parts, and especially is this true of abscesses which are present in the buttocks. In such instances, bare bone will not be felt at the base of the abscess, nor will the roentgenograms taken of the local area reveal the underlying pathology. The lumbar and sacral vertebrae must be closely examined for possible foci. Sinuses may be

injected with solutions opaque to roentgen rays and the course of these solutions determined by radiogram. In a case treated by one of the authors sinuses presented below the greater trochanter. Roentgenograms of the pelvis, hips and femur were negative for bony pathology. Injection of the sinus with lipiodol, enabled films to be taken which traced the lesion to the region of the upper dorsal vertebrae. Retro-pharyngeal abscess is not infrequent beyond the first two or three years of life. Boggs and Pusitz recently reported nine cases of retro-pharyngeal abscess in patients of the older age groups. In the experience of one of us, the ages ranged from six to eighty-four. In the older age groups one must rule out the possibility of osteomyelitis of the cervical spine. At the other extreme ischio-rectal abscess is not always tuberculous. Here again osteomyelitis must be ruled out. Mediastinal abscess should be considered in the presence of pain in the chest or abdomen, dry cough with hiccough, pleuritic friction rub, or an area of dullness with diminution of the breath sounds. Klein states that the diagnosis is made by (1) history of a focus which may give rise to a bacteremia, (2) localized tenderness over the spines of the thoracic vertebrae, and (3) roentgenographic evidence of widening of the mediastinal space.

One must suspect osteomyelitis of the spine, with perforation into the vertebral canal when a patient with a focus capable of giving rise to a bacteremia presents signs and symptoms of involvement of the spinal cord. Important items are tenderness over the spinous processes, somewhat localized, signs of a level lesion, evidences of subarachnoid block and pleocytosis in the cerebrospinal fluid (Klein).

A patient with pain in the back, fever unrelieved by symptomatic measures, with negative roentgenological evidence, where the history of a focus capable of giving rise to a bacteremia is encountered, but with a localized area of tenderness, should be suspected of having an osteomyelitis of the spine. Exploration is justified on these grounds alone; to delay until complications set in may be disastrous.

Where a pyemia is encountered, with multiple visceral involvement, and possible septicemia, the spine should be suspected of supplying the original focus for the entire syndrome, and pathology in this region should be looked for. Septicemia from a pathological standpoint, should not mean the presence of organisms in the blood stream which are

multiplying, but rather the presence in the blood stream of organisms which are constantly being poured into it by some focus of infection. As has been noted from the studies of Henle and Fraenkel, the spine may well be such a source. In the fulminating cases the diagnosis may only be made at autopsy.

In the more chronic forms, the condition may resemble tuberculosis of the spine. However a careful history may reveal an acute stage in the condition, roentgenological examination may reveal productive changes, bridging, etc., to give one a clue as to the correct interpretation. The development of osteomyelitis in other bones may finally lead to a diagnosis of the original lesion.

The presence of a positive blood culture will rule out tuberculosis of the spine. The sedimentation time is of no value from a diagnostic standpoint, as was determined in the survey of Pusitz, who analyzed 1,000 sedimentation time tests in over three hundred cases in the Steindler clinic. Authors differ as to the value of roentgenographic studies. Kulowski states that they are indispensable. Klein believes that they were not of great value in the cases at Mt. Sinai. Certainly they are an important adjunct in the diagnosis, but for the complete workup of a case one needs the clinical history, a thorough physical examination, laboratory and roentgenological investigations. In order that the roentgenologist may properly interpret his x-ray findings he must have a thorough knowledge of the condition and develop a technique which will present the evidence. Many views are required and serial or follow up x-rays are indispensable. The grosser lesions are at once apparent, especially those which involve the disc or vertebral bodies. The lesser and more circumscribed lesions, especially those involving the arches, are more difficult to present.

The conditions which may be wrongly diagnosed instead of osteomyelitis of the spine are: Tuberculosis, perinephritic abscess, appendicitis, "acute abdomen", arthritis, pneumonia, empyema, mediastinal tumor, soft tissue abscesses, tumor of the spinal cord, meningitis, toxic myelitis, toxic neuritis, sacro-iliac or sacro-lumbar strain or arthritis, sciatica, mycotic lesions, uterine obstructions, pericarditis, and septicemia (of unknown origin).

#### PROGNOSIS

The prognosis is most difficult to estimate. The statistics on the whole problem should be



revised. Until the profession acquires accurate knowledge of the disease, the incidence, prognosis and treatment must be variable quotients, differing with each clinician and each clinic.

The earlier records of the condition dealt with the more acute and more fulminating cases or autopsy reports, and it is therefore not surprising to note that prior to 1890, the general mortality reached eighty-one per cent. Between 1890 and 1900, the mortality was listed at forty-eight per cent (Wilensky), and between 1900 and 1905, Donati estimated it at twenty-two per cent. Yet according to Donati's own table, the mortality ranged much higher than his estimated figures.

TABLE III

Donati	Cases	Deaths	Percent
Cervical	9	4	44.4
Dorsal	18	5	27.7
Lumbar	26	17	65.4
Diffuse	3	1	33.3

According to Wilensky, the mortality from 1905 on ranged from thirty-five to forty-five per cent, in his own cases, the mortality being forty-four per cent. In 1921, Kidner reported three cases which ran a relatively benign course, and in 1933, Smith published an account of seventeen cases, where there was apparently no mortality, and which led him to consider these as "benign forms" of osteomyelitis of the spine. Below is the table taken from Kulowski, which gives a mortality rate of approximately twenty-five per cent.

TABLE IV

Kulowski	Cases	Deaths	Percent
Cervical	5	3	60
Dorsal	24	4	16.6
Lumbar	27	7	26
Sacral	4	1	25

From these statistics, disease of the cervical spine is more dangerous than elsewhere. Of the authors' series, two cases of probable osteomyelitis of the spine involving the cervical region, with the formation of retropharyngeal abscess. Of these one died. Strangely enough, involvement of the dorsal region carries with it less mortality than either the cervical or lumbar areas. Wilensky states that, from his analysis of the material reported, involvement of the posterior arch is a more favorable condition than that of the body, although nerve involvement is more common. He believes this is be-

cause the condition is more likely to be recognized at an early stage. The authors do not consider this to be the true reason, for in their analysis it is somewhat more difficult to diagnose the single lesions of the posterior arch. We believe that the reason for the lesser mortality is entirely due to the fact that the pus has more opportunity to find egress into other channels without being locked up, even though there is the greater chance of perforation into the vertebral canal; and also because this region is more accessible to surgical approach. These details will be explained more fully under treatment.

To correlate the high mortality figures with those of Smith is difficult. One wonders how much follow up Smith has given to his patients. Not that his contribution is not very important—it does indicate a rather high incidence of the chronic types of osteomyelitis of the spine, which, in fact, gives one a clue as to a *modus operandi* in treatment which will be stressed later. However, the authors recently witnessed an autopsy on a so-called case of healed osteomyelitis of the spine, which was previously diagnosed as a healed tuberculosis of the spine. The patient was given to understand that his condition was healed, and undertook his usual occupation. He had recurrences of symptoms referable to the kidney, which was diagnosed by the authors as suppuration of the kidneys, with perinephritic abscess, complicating osteomyelitis of the spine. The patient finally died, with a huge abscess involving the entire kidney and perinephritic region. This case, in their opinion, was not healed, but was active. The patient died of a kidney involvement, and all that was found in the spine was a mass of granulation tissue; the bone, showing chronic osteomyelitis. On the other hand, the statistics with reference to the mortality rate in amyloidosis must be revised, since this is not a permanent pathological state but can be cured, provided the condition causing the amyloidosis is cured. Moreover, amyloidosis is very uncommon in osteomyelitis of the spine, even in the most chronic and serious cases. Where there is perforation and meningitis develops, recovery may occur, and one such case is reported in the Iowa series.

Almost all authors have a different concept as to the ultimate outcome of the condition, one stressing one detail and another some other detail. The condition is much more common than is believed at the present time; many

cases are of such lesser severity as to be passed over altogether, since they give rise to no appreciable symptoms. In the vast majority of cases, even if the condition is ushered in as an acute process, it soon passes into the subacute and chronic stages. This can be explained along the lines developed in the discussion of the anatomy and pathology. In every pathological entity there will be examples which begin and end as acute cases, or begin and end as chronic cases. A staphylococcal osteomyelitis of the spine carries with it the same potentialities, regardless of whether it begins as an acute and then turns into a chronic process, or begins and ends as a chronic process. The same dangers and sequelae may take place. However, nature can handle the less acute cases much more efficiently than it can the more acute. There is a tendency toward the acute processes becoming chronic. This is one method of protection inherent in the organism. During the chronic stage, however, the process is still present, and the condition is not cured. When the condition does become cured it is difficult to determine according to the present criteria, but certain factors may be listed which help. If all signs and symptoms disappear, and the patient has no recurrence of these for several years, and there are no evidences in the roentgenogram of any increase in the proliferative response, and if all laboratory investigation is normal, it may be taken for granted that the patient is cured. A decided aid is the sedimentation time test. Pusitz has noted the value of this test from a prognostic standpoint in bone and joint pathology. In a series of 1000 such tests in these conditions, he noted that while the test had no value from a diagnostic viewpoint it was of decided merit in a prognostic sense. If the sedimentation time remained consistently low, especially below 30 minutes, the test being performed at repeated intervals, the prognosis was poor. If the rate increased, the prognosis was better. If the rate reached the normal, and remained normal for some length of time, the chance for a recurrence of the condition was small. If the test remained a rapid rate, even though the patient improved clinically, the danger of a recurrence was great.

The etiological agent does play some part in the prognosis of the case, although there must be exceptions. The prognosis in typhoid osteomyelitis is always favorable, without surgical intervention. Cases, however, are on

record in which symptoms did not clear up (nor did the case go on to synostosis) until a fusion was performed. Streptococcal osteomyelitis is more favorable, leads to less suppuration and less necrosis or sequestration than does a staphylococcal lesion. The former is more apt to subside without surgical intervention than the latter, and is more apt to be met with in the young and the old rather than in the adult groups. Klein does not agree with this, and notes that in his series, a case with streptococcus viridans involvement died, while one case with a staphylococcus involvement and one with a pneumococcus, type I, recovered. There is, however, a preponderance of the staphylococcus agent in the more acute and fulminating types; and the majority of cases in the Iowa series were infected with this organism.

The prognosis is very much influenced by the complication resulting from this disease. Involvement of the spinal cord offers the poorest prognosis, involvement of the kidney or the perinephritic area offers a serious prognosis; whereas abscess formation presenting in the back, especially when resulting from a posterior perforation, offers the best prognosis. Since osteomyelitis of the spine bespeaks a generalized infection, complications may arise therefrom, which although not primary conditions, certainly influence the prognosis. These consist of metastatic foci of infection due to the circulation of the bacteria during septicemic stages, possibly from which the vertebral lesion itself resulted. There may be suppurative and non-suppurative infections in the various joints of the body. The hollow spaces may become involved resulting in empyema, pericarditis, peritonitis, cerebrospinal meningitis, etc. Endocarditis, fascial space infections, lung abscesses, renal infarcts, etc., may further complicate the picture, each carrying its own prognoses. But all of the complications add to the prognosis of osteomyelitis of the spine, the primary condition.

That proper treatment may influence the prognosis is very definite in the statistics and is well shown in Table V, taken from Kulowski, of treatment and end results. The authors believe that if the principles of treatment of osteomyelitis in general are well followed, the mortality rate will be much decreased.

#### TREATMENT

The following outline is merely the interpretation of one group, but the authors believe that



this therapy is based on fact.

The axiom to immediately operate the acute case of osteomyelitis, no matter what the condition of the patient might be should be questioned. In the hyperacute case, it is certainly the better policy to delay and give the patient a chance to muster natural protective forces. Too often the authors have noted harmful results due to hasty exploration of an involved bone. It requires exacting clinical judgment to know when to explore an involved bone. This is true of osteomyelitis in general and it is particularly true of osteomyelitis of the spine. In the fulminating cases, the mortality rate is high regardless of whether operative intervention is instituted or not; the other cases which may be termed acute cases, soon pass into the sub-acute or chronic stages. During this stage the patient has developed protective forces which makes him more able to cope with the situation. How long to delay will depend upon the experience of the surgeon, since no fast rule may be laid down. During the period of delay the patient is treated along general lines. Since he is usually prostrated there will be no difficulty in keeping the patient in bed.

Orthopedic principles must govern the treatment of any involvement of the spine, and this is true in osteomyelitis. Careful examination of the back reveals spasm of the muscles, nature's method of splinting the back. In 1860, Hilton delivered a series of lectures before the Royal College of Surgeons of England, a series which he later published under the title of "Rest and Pain". The philosophy which forms the basis of his concept of proper treatment is just as true today as it was then. Students analyzing the value of rest in the treatment of Pott's disease, realize this; but how many realize the value of this basic principle in the treatment of other infections of the spine, and of osteomyelitis of the spine? The ordinary mattress bed should not be used in any involvement of the spine in which there is muscle spasm. Boards should be placed underneath the mattress, or better still, the patient should be placed on a Bradford frame, or some modification of this such as the Herzmark frame. The authors approve of the Herzmark frame because of its adaptability; the ease with which a flap may be left in the canvas hammock, for the use of a bed pan, etc.; and the ease with which any curve may be made in the frame to give any degree of either concavity or convexity, whichever the surgeon deems necessary, without mov-

ing the patient. The curve in the frame can gradually be increased or decreased; one may begin with a concavity and end with a convexity, again without bothering the patient. These frames are far from being objects of beauty, and require constant adjustment from time to time by the surgeon himself. One experiences difficulty at times to convince even the nurses of the importance of these appliances, since they look so simple, and gauche.

Since the slightest movement of the vertebral segments give localized and general pain, the authors institute head and pelvic traction, for exactly the same reasons as in tuberculosis of the spine. It is surprising how much comfort this will give the patient. Some restless patients will not tolerate traction, but this has not occurred in the authors' limited experience; all of their cases were most grateful for the relief afforded (after the relatives were ordered away). At times, the patient attempts to assume some position which he claims gives him more relief; except in involvement of the sacroiliac joints, the authors' experience has been that the neutral position is the most gratifying one, although the patient may resist this at first.

Therefore, during the hyper-acute state, where the accurate localization of the lesion is most difficult, it is preferable to employ expectant measures, but using orthopedic measures from the start. General measures to affect infections are of lesser importance in any case of osteomyelitis, but they may be instituted as adjuncts in treatment. The authors have had limited experience with intravenous mercurial therapy, but recently warnings have been voiced that these methods do carry with them some potential danger. One therapeutic agent agreed upon by all is blood transfusion. This forms one of the most potent measures available to build up the resistance of a patient who is fighting any type of infection. It is believed that several smaller transfusions are more valuable than one larger transfusion.

The use of bacteriophage is in an experimental state. It is only about a decade ago that d'Herelle published his account on bacteriophagy. In 1929, he had Davidoud treat the first case of staphylococcus septicemia with bacteriophage, with success. Since then numerous failures and sporadic successes have been accorded the treatment of septicemia with bacteriophage. All in all, this mode of therapy is in an uncertain state, but does offer attractive consideration.

Before one can condemn this form of treatment, it is essential that it be given a fair trial. Unless we are familiar with the technique advocated by d'Herelle, we may be led into administering it incorrectly. In the first place, d'Herelle states that the bacteriophage must be endowed with a maximum potency against the particular pathogenic organism involved. There are various races of bacteriophage, some more or less powerful. Just what he means by selecting races of high potency, or how they can be secured is not particularly clear from his writings. He also states that the therapeutic effect of a bacteriophage is the stronger the more recently the bacteriophage has been isolated, yet in sealed ampoules it may retain its properties for many months and even several years.

D'Herelle further states that the bacteriophage must be so administered that it can quickly come into contact within the body with the bacteria it is intended to combat. Although, he claims that bacteriophage has no destructive action on the cells of the body, the opposite may not be true. In fact, it is difficult to understand how any living thing can be introduced into the body without the protective forces within the body attacking it. Hence, in the authors' opinion, the best method of introducing these organisms is by the intravenous route. By this method it is disseminated quickly, has more chance of reaching the focus of infection, and has less chance for the protective forces of nature to kill these ultramicroscopic things before they reach their goal. Therefore, while the commercial houses, advocate the subcutaneous or intramuscular routes, it would seem more logical to use the intravenous route. The commercial houses warn the physician against the use of the substance intravenously, but do give dosages for intravenous administration. They advocate the injection of about one cc. of undiluted bacteriophage. On the other hand d'Herelle, who originated this form of therapy, advocates that it be administered in the following manner. Five cubic centimetres of a suspension of staphylococcus bacteriophage (for a staphylococcus septicemia) is diluted in 500 cc. of normal saline. This is introduced intravenously, the injection taking about one hour. He claims that with this technic, it is possible to inject as much as twenty-five cc. of bacteriophage suspension without danger of immediate shock. Several hours after the injection, the patient has a pyrexia, and this may be accompanied with chills, but this soon subsides.

Theoretically, only a small fraction of a drop is necessary, if it reaches the bacteria, since this bacteriophage grows and multiplies in the host.

Albee became interested in this agent in the treatment of osteomyelitis of the other bones, but he developed local or tropical application. Lowendorf, in the Steindler clinic, analysed cases in which the local application of bacteriophage had been made, and he could not definitely ascertain any value therefrom. The authors have tried bacteriophage in some fifty lesions of osteomyelitis and could see no particular advantage in its use. Albee claims that the bacteriophage is formed in over ninety per cent of the cases of osteomyelitis he examined. If it develops spontaneously one would doubt the value of adding it to the wound.

All in all, the problem of bacteriophagy opens up a tremendous field for speculation and experimental work. One must admit on physiological grounds that the method carries with it attractive features. The authors have used bacteriophage in four cases of septicemia (staphylococcal), and of these two recovered. Other adjuncts were used such as blood transfusions, and it is difficult to evaluate the role played by the bacteriophage. In serious cases the authors do not hesitate to recommend it.

The use of allantoin, or of chemical compounds, as advocated recently, do not seem to be based upon physiological grounds, and have not been tried out on enough cases. In any event, they are certainly of no value in osteomyelitis of the spine because of the location and the difficulty of locating and reaching the area involved.

The second important consideration in the treatment is the etiological agent. Streptococcal forms of osteomyelitis do not seem to produce as much necrosis or suppuration as the staphylococcal; and there is also a much greater tendency to subside. Only in recent years have clinicians realized this. Nathan was probably the first to recognize the difference in the progress of the disease depending upon the etiological agent. He considered it with reference to coxitis, and he noted that streptococcal coxitis was less apt to result in massive destruction, or to produce large abscesses and that it was prone to subside spontaneously. He therefore advocated the use of conservative measures in streptococcal coxitis.

The next important consideration is to at all times realize just what is being done. The Orr treatment of osteomyelitis, regardless of the



site of the lesion, entails firstly adequate drainage of the diseased bone, secondly, the insertion of a vaseline pack or dressing, and thirdly, the immobilization of the entire area. In most cases of osteomyelitis of the spine it is not possible to perform the Orr treatment; in some cases it is unnecessary. In osteomyelitis of the spine, the pus soon makes exit from the bony focus for the reason that there is no true periosteal envelope, the periosteum in this region being replaced with a tendinous or fibrous covering. Where the focus of infection is more superficial, it immediately burrows through the fascial spaces, and in these cases if the abscess is opened, it may provide drainage not only for the abscess but for the bone as well. Of course, the drainage must be adequate, therefore, the incision is packed wide open and the drainage maintained.

But with regard to this particular problem much confusion exists at the present time for the simple reason that the statistics vary so tremendously. For example, Wilensky in a magnificent review of the subject states that in all of the cases of osteomyelitis of the spine where the abscess is drained, no attempt should be made to remove bone tissue, and presents the following reasons for this rule. Firstly, he states that sequestration does not occur; while this is true in the large majority of cases, it is not always true. Moreover, sequestration was never the only criterion for the drainage of osteomyelitis elsewhere. Secondly, he makes the statement that these abscesses are to all intents and purposes subperiosteal, which heal promptly when drainage is thoroughly established. This is decidedly untrue in so many cases that it should not hold at all. In the first place, the lesion may affect any portion of the vertebral unit; in the second place, the lesion may not heal so promptly with even adequate drainage of the bone itself let alone with only drainage of the abscess. This statement was made by Lejars several decades ago. He further states that it is difficult to demarcate the involved from the healthy bone, and he fears that unwittingly healthy portions of an important unit may be removed. The answer to this is that firstly, one does not have to remove wholesale portions of the bone, secondly there will be some clue as to the probable locus of the pathology, and thirdly, even if an opening is not made in the exact locus of pathology, the pus will eventually drain out of the bone to this

window. This has been noted time and time again by the authors in osteomyelitis elsewhere; even if the window is made in the proximity of the lesion and not actually at the lesion, drainage finally takes place through this window. Pusitz and Mertz, in an analysis of osteomyelitis of the jaw, pointed out that it is unnecessary to have demarcation of necrotic from living bone before draining the bone, nor is it necessary to be sure to remove all necrotic bone as long as the wound is packed wide open. Wilensky's ideas are not shared by his own associates for Klein makes the opposite statement, namely, that the focus in the bone itself must be drained. Patton described a case which bears out this contention. In the treatment of osteomyelitis of the thoracic spine, he merely removed some superficial portions of necrotic bone which easily came away when he drained the area. The symptoms continued, however, and the patient developed a paraplegia six weeks later. Re-operation was performed, and the diseased portions of the spinous processes and laminae were removed, along with exudate on the dura, and the patient made a recovery.

Whether or not the actual bony lesion will be attacked will depend upon how accurately the lesion can be localized, the accessibility of the lesion, and the diffuseness of the lesion, although the latter item should mean little as far as drainage is concerned. One does not attempt to drain lesions in the intervertebral disc or in the bodies of the vertebrae for the reason that these areas are anatomically inaccessible, and because of the attendant danger of severe hemorrhage. The posterior portion of the vertebra can be reached, however, with simple approach, and in many more instances than has been true in the past the lesion can be approximately mapped out if not accurately localized. Where this portion of the vertebra is involved it can be felt at the base of the abscess and is distinctly roughened. This portion should be removed. Involvement of the arch, without abscess formation should be approached by the most direct route possible. Where drainage of the osteomyelitic lesion has been performed, the authors use the Orr method of treatment, and pack the wound open with vaseline gauze and apply a plaster of Paris cast. This, for the present, affords the most accurate, simple, and economical method of splinting the area and keeping it at rest. Let it then be distinctly un-

derstood that the Orr treatment of osteomyelitis of the spine (if such a term can be used) means the actual drainage of the diseased area, and not the mere drainage of the abscess. In truth, the authors believe Lejars' statement with reference to osteomyelitis of bone, that if the subperiosteal abscess alone is drained, then one has not really begun the treatment of the osteomyelitis itself. This truth was recognized by Lejars and published in his text on Urgent Surgery over twenty years ago; the subsequent experiences of later generations of surgeons confirm the truth of the statement. Therefore, the primary object in the treatment of osteomyelitis of the spine is the actual drainage of the focus in the bone itself. Where circumstances do not allow this, the next best thing must be done, understanding, however, that other forms of therapy are not specific.

The fact that one can not reach the focus by surgical means does not mean absolute failure. Although the primary object of the treatment of osteomyelitis of a long bone should be adequate drainage of the involved area, not all of the undrained cases go on to fatal termination. Protective forces within the body are developed to combat infection; whether these can cure the disease is uncertain but they can certainly localize it and keep it localized. This is seen in the formation of a Brodie's abscess. The inflammatory process becomes chronic. Just what agency is employed, the production of antibodies or bacteriophages is uncertain, but they do become localized and chronic. The same is true of most of the cases of osteomyelitis of the spine. These chronic inflammatory processes resemble those caused by other organisms in many respects. There is much similarity between chronic osteomyelitis of the spine and tuberculosis of the spine, both roentgenologically and clinically. This has led the authors to believe that they should be treated similarly. Therefore during the acute stages, where the focus in the spine is inaccessible, the authors advocate the same measures of absolute rest, and the use of the same general measures as in tuberculosis of the spine, even to the point of spinal fusion.

It is peculiar that so many statements should be made with reference to this particular phase of the treatment, and that there should exist so much confusion. Thus, if one reads the text of Smith, one gains the impression that he condemns fusion of the spine in the treatment of

osteomyelitis. He, however, cites eight cases of this condition who had a fusion of the spine, under the impression that they were cases of tuberculosis of the spine. Of these, six cases made a perfect recovery; one still has draining sinuses and advanced amyloidosis nine years after the operation; one had draining sinuses but was very much improved one year after the operation. There were no deaths. This would certainly indicate rather good results from the spinal fusion. He does indicate that conservative treatment gave good results (in the chronic cases), but this has not been the experience of the authors, nor of the other investigators. On analysing the literature, one notes the frequency with which symptoms recurred later in the conservatively treated cases. One case of the authors was referred to their care because of symptoms of cord compression, some years after the patient had been discharged as cured. This case died of perinephritic abscess and kidney suppuration. Until the statistics become more reliable and are closely scrutinized, it must be said that the prognosis is not as favorable as this author believes; on the other hand, it is far from being as unfavorable as the older authors painted it. Another item which has crept into many articles is the statement that the majority of cases of osteomyelitis of the spine go on to early fusion spontaneously. It is most difficult to be sure of fusion of the spine from the films. On two occasions the authors noted that incorrect interpretations had been made. One case at operation, and one case at autopsy, revealed motion between vertebrae which were supposedly fused. One case considered as a spontaneous fusion of the spine later developed an osteomyelitis of the clavicle; certainly the focus was far from being healed, and one doubted the interpretation of the roentgenologist. Even in typhoid spine, cases are encountered which do not go on to spontaneous fusion and there is no relief of symptoms until a fusion of the spine is performed. Kulowski states that fusion of the spine is indicated in selected cases, but believes that this procedure is unnecessary in view of the tendency of spontaneous fusion. The authors admit this and do not advocate fusion as an immediate measure, and only in such cases as tend to show still active disease after some length of conservative treatment. If after such prolonged treatment there is still evidence of active disease, especially if there is the development of another focus elsewhere,



and if the lesion is in the body or intervertebral region, they believe that fusion of the spine is indicated. They argue on the grounds that if the actual focus can not be attacked, then the future depends greatly upon general measures, of which the most important are rest and freedom from trauma. No better form of splinting can one devise than the internal splinting by means of a graft. The Albee inlay technic is preferred since this can be carried out with a minimum amount of disturbance to the region. Naturally, fusion of the spine is only to be advocated during the chronic stages of the disease and never during the acute or sub-acute stages. The authors have performed fusion of the spine for osteomyelitis in but two cases. One made a most perfect recovery and is back at work as a farmer, with no recurrence three years after the operation. The other case developed an infection and still has draining sinuses three months after the operation, but these are rapidly closing in. The general condition of the patient is very much improved.

In involvement of the posterior portions of the vertebral unit, fusion of the spine is contraindicated, and the method of choice is the actual drainage of the focus, following out the principles of the Orr technic. Again it is emphasized that fusion of the spine is not a specific cure, it is merely a symptomatic or rather an adjunct in the treatment, merely to give absolute rest to the involved region. Has fusion of the spine any other function in tuberculosis, or in typhoid osteomyelitis? Just when to perform fusion of the spine is a difficult question to answer. Every chance should be given for spontaneous fusion to occur, where this process is delayed, the operation should be considered. Just as in tuberculosis of the spine, one can not expect the fusion to shorten the period of absolute rest (recumbent period); the only part that is lessened is the period of ambulatory treatment.

Much confusion exists with reference to the use of orthopedic appliances. Thus Wilensky states that orthopedic appliances are generally not called for, except for cases of osteomyelitis involving the cervical spine. It is most difficult to understand this attitude since in any involvement of the spine, regardless of whether it be an infection or a strain, an orthopedic appliance is indicated. During the stage of drainage, the authors advocate the use of rest and would prefer a plaster of Paris cast to any other form of splinting. During the ambula-

tory period of treatment (the chronic stage) when the patient is allowed on his feet, the back is protected by means of a spinal brace. But this brace must fit accurately and must be rigid enough to be a protection. Of all the braces the authors have had experience with, the Steindler brace is the most efficient. It is made rigid enough for support; in the second place, the whole brace is one integral unit, there being no additions screwed on or held in place by bands. The brace must be made from a plaster of Paris model. The old art of model taking is rapidly falling away and as a result more and more responsibility is being shifted to the bracer, who has no accurate knowledge of the anatomy and pathology of the involved area. The surgeon should be experienced enough to take the model, and in the correct position or alignment; and he should be able to dictate to the bracer just what he wants. In this way, the brace is made accurately, and it fits. There should be no discomfort from the brace; although many adjustments may be necessary before the brace is finally accepted. In cervical involvement, the authors prefer a celluloid jacket which includes the whole head, or in the less severe cases a body brace to which has been added a modified jury mast. The use of crutches added to the brace is not physiologically sound; the authors have treated two cases of crutch palsy due to pressure. In the body brace, as advocated by Steindler, the crutch is an integral portion of the brace, and fits the body rather than presses up under the arms. These seemingly unimportant details sometimes mean not only the comfort of the patient but the success of the treatment. Just how long the patient will have to wear the brace is difficult to answer, as it is in tuberculosis of the spine. It should be worn long after all symptoms have subsided and the roentgenograms show full healing of the lesion. After a fusion of the spine, it is very much easier to tell the patient when he can go without protection.

#### TREATMENT OF COMPLICATIONS

While this forms an essential part of the treatment of the case, it must not be forgotten that this is not the whole treatment of the condition, even though it is definitely true that the complication may occupy the whole picture insofar as the symptomatology and prognosis are concerned. Early treatment is essential to prevent perforation into important regions and spread of the process.

Abscesses which point posteriorly in the back do not, as a general rule, offer particular problems in drainage but it must be remembered that these abscesses may present at the base some roughened bone which will give the surgeon a clue as to the correct diagnosis, and this roughened bone should be removed, or at least opened, so as to afford drainage to the involved bone. In many instances simple use of the curette will be all that is necessary, plus the usual routine of packing the wound with the vaseline gauze and the immobilization with a cast (Orr treatment). "Scraping" the bone is an old expression, and the older surgeon did nothing more than this in some of his cases, yet many of the patients did well. While it is recognized that this method is far from being sufficient, in instances where no other choice is possible, this practice may give worthwhile results. In using the curette small portions of the bone should be removed, thus opening into what little bone marrow is present. It should be remembered that these pus collections are usually some distance from the surface; the mistake in the early treatment by the inexperienced operator is in not going deeply enough to reach the pus. This holds true from the occiput to the coccyx.

Accumulations of pus forming along the anterior surface of the spine offer difficulties of much greater magnitude, and principles in treatment will depend upon the anatomical difficulties presented. In the neck one may encounter a diffuse inflammation of the soft tissues, which may resemble retropharyngeal abscess. This has been stressed by Boggs and Pusitz, who have pointed out the difficulties of diagnosis. In these cases, conservative treatment is safer, following out the principles of treatment of cellulitis. When localization of pus has been obtained treatment is the same as for retropharyngeal abscess.

In osteomyelitis of the spine, retropharyngeal abscess reaches large proportions almost from the start. Therefore Boggs and Pusitz advise against intra-oral approach. The intra-oral approach is more dangerous as is evident from the mortality reports. Also, adequate drainage is difficult to maintain. The external approach is efficient, direct, and may be carried out under local anesthesia. By this approach the entire retropharyngeal space may be explored with the examining finger. In addition the danger of aspiration of the contents of the pus cavity is avoided. The approach

advocated by the authors is as outlined by the late Professor Prentiss. An important advantage of the Prentiss technique is that it gives the operator access to the enormous area of the retropharyngeal space. It is important to remember that the retropharyngeal space is situated quite deeply and as a result of this many cases are not adequately drained because of the temerity of the surgeon. It is also important to remember that the alar fascia is quite resistant in some individuals but that it may be perforated with safety.

The lateral abscesses of the neck may point into the anterior or posterior triangles, usually the latter. Since these abscesses, as a general rule, work their way outwards, and since many important structures lie in their wake, and there is no immediate danger of perforation into an important cavity (as there would be in a retropharyngeal abscess), it is best to apply hot packs and allow these abscesses to point before draining them, rather than to attack them blindly.

In the thoracic region, a diffuse involvement of the soft tissues and fascial spaces may occur, just as in the neck—mediastinitis—but this, as a general rule, carries a much less favorable prognosis than similar conditions in the neck. However, again the authors wish to point out the inaccuracy of the present statistics, and advise conservative measures, or radical surgery as indicated below. It is most difficult to differentiate these diffuse processes from localized abscesses.

Where there is a localized abscess in the dorsal region, the prognosis is better and surgical interference indicated. Because of the many dangers due to perforation; the danger of recrudescence of acute symptoms, the authors advocate prompt surgery. According to Wilensky, favorably placed mediastinal and retropleural abscesses can be classed with localized empyemas and should be incised and drained according to the best principles in use for drainage of empyemas in general. Where the mediastinal abscess is less favorably placed, retromediastinal abscesses, or where there is a diffuse mediastinitis, more radical procedures should be adopted. These measures, although definitely radical and serious, should be adopted since these abscesses are dangerous, and their danger is particularly due to the pressure against the contents of the retromediastinal space. There is the everpresent danger of perforation into neighboring spaces such as the pleural or



pericardial cavities, etc. Frequently direct communication may be established with the contents of the spinal canal, and then it is liable to produce a persistent and unmanageable paraplegia, just as in tuberculosis of the spine. Pressure effects may be produced on the pulmonary and cardiac systems.

Puncture or aspiration as advocated by Sgalitzer and Calve in tuberculous conditions is obviously not the method to be advised in osteomyelitis. Drainage is thereby not maintained, a prerequisite for the successful handling of the case and there is not the same danger of mixed infection as there is in tuberculosis. The injection of the abscess with modifying fluids is again not to be advocated for the same reasons. Costotransversectomy was first introduced for retromediastinal abscess in osteomyelitis by Heidenheim. The method was later used by Menard for tuberculosis of the spine, but the measure remains none the less an adequate procedure for osteomyelitic collections. It not only gives a much better outlet to thick pus, but it enables the surgeon to adopt the method of continued drainage. The approach is made as for a Hibb's fusion of the spine but the stripping of the laminae is carried further outwards beyond the tips of the transverse processes. The lateral half of the transverse process is then resected, and this is then followed by a resection of the head and neck of the rib. Much care must be taken not to injure the lungs or pleura since they follow the bony cage closely. At times this may be insufficient, and a posterior mediastinotomy may then be performed, resecting adequate lengths of a sufficient number of ribs, the resection being from the most posterior portions as for a costotransversectomy but continuing outwards as far as to the angles of the ribs. This furnishes quite a wide approach to the mediastinal abscess, but is a procedure which carries with it much risk. The danger of causing a spread of the inflammatory process in the soft tissues of the mediastinum, mediastinitis, is great, but the authors do not believe that this is a contraindication because of the attendant dangers of the infection.

Intra-abdominal abscesses are drained along the usual lines of general surgery, adequate drainage being maintained. Many of these abscesses point in the direction of a psoas abscess and are more easily drained extra-peritoneally. Retroperitoneal abscesses may be reached by the route described by Ridlon and Jones,

namely, making an incision along the erector spinae mass, exposing the quadratus lumborum muscle, and proceeding to the anterior surface of the latter. By passing the finger under the transverse process towards the body of the vertebra the abscess may be felt and even fluctuation determined by exerting pressure. Wide drainage should be established and maintained, since the subsequent pyogenic and septic changes are responsible for a high mortality (Steindler). Where the retroperitoneal abscess lies in front of the sacrum, treatment is more difficult and will be discussed below.

Wilensky divides the pelvic abscesses into (a) high pelvic (b) ischio-rectal, and (c) paraanal abscesses. The high pelvic abscesses are the most difficult to reach and one may have to adopt trans-sacral drainage. The method of Picqué seems the most suitable for the difficult regions. In this the sacro-iliac joint is exposed by a curved incision which follows the posterior border of the iliac crest, and then continues downwards along the outer border of the sacrum. By subperiosteal dissection, the entire posterior portion of the os ilei is exposed bare from the posterior superior spine downwards. The crest of the os ileum, from the posterior superior spine downwards to the upper corner of the greater sciatic notch, is divided with osteotome and mallet. A corresponding piece of the sacrum is also removed, and wide open and adequate drainage of the retroperitoneal cavity, lying in front of the sacrum, is afforded the surgeon. In a number of cases, all that will be required is resection of the coccyx, or the coccyx and the lowermost portion of the sacrum, depending upon the location of the abscess. Para-anal abscesses offer no particular problems as long as the surgeon will remember that the abscess is due to an osteomyelitis and that adequate drainage must be maintained. Ischio-rectal abscesses are treated along the general lines for drainage of these localizations, remembering the same points. It is better to wait, however, in these cases, so that the abscess may point as low down as possible, and then their incision and drainage is a much simpler problem.

In draining posterior abscesses, except in cases of definite involvement of the posterior portion of the vertebra, the laminectomy approach should not be adopted, since this exposes the vertebral canal and the intervertebral foramina to an extension of the inflammatory involvement. Aspirations should be done with

extreme care for the same reason, and lumbar puncture should not be performed at all where there is a suspicion of osteomyelitis of the spine or suppuration anywhere in the vicinity. Failure to observe these rules may result in inflammatory involvement of the meninges or cord. Where there are symptoms of cord involvement or cord compression or even root compression, surgical interference is indicated. The statistics must be revised. Frank meningitis has been considered hopeless but in recent years cures have been reported. In Iowa, one of us saw a case of frank meningitis, complicating a laminectomy in osteomyelitis of the spine, which was discharged as hopeless, only to have the patient return one year later completely recovered. We would therefore advise laminectomy.

Where there are symptoms of compression of the spinal cord, the indication is for immediate laminectomy. If only a simple extradural exudate is found, this will be all that is necessary. If there is frank suppuration present drainage should be maintained. When an extra-spinal abscess communicates with an extradural abscess, decompression is still indicated. One such case was decompressed by us and all that was found was a growth of granulation tissue. The decompression alone proved to be adequate treatment for this patient. Conservative treatment should not be attempted in these cases, although the opposite may be true in tuberculosis. Where there is no frank suppuration when a laminectomy has been performed, the authors believe that a fusion may be performed at the same time as has been advocated in tuberculosis of the spine by Vulpinus, Dehrunner, Gaenslen and others. This, however, is only indicated in cases of chronic osteomyelitis in which there has been no tendency to spontaneous fusion. Where it is impossible to differentiate the condition from a myelitis, and there are symptoms which could be interpreted as a compression of the cord, the indication is again for immediate laminectomy.

SUMMARY

In this paper an attempt has been made toward a complete survey of osteomyelitis of the spine. We have found that all statistics pertaining to this subject must be revised. The inadequacy of statistics is noted in the following table taken from Kulowski.

TABLE V  
Treatment And End Results (Kulowski)

	Iowa Series				Questionnaire Series			
	Total	Healed	Died	Sinus Unknown	Total	Healed	Died	
Direct attack	8	5	3	0	0	17	17	0
Incision and drainage	27	14	6	5	2	11	5	6
Conservative	9	9	0	0	0	9	8	1
Laminectomy	0	0	0	0	0	2	1	1
No treatment	14	1	5	2	6	2	0	2
Spinal fusion	2	0	1	1	0	1	1	0
Total	60	29	15	8	8	42	32	10

One notes the variability of findings between the Iowa series and the questionnaire series which Kulowski has conducted. It is seen that the direct attack, which means the direct drainage of a bony focus, gives the best results, especially in the questionnaire series.

While the mortality rate is still high, it is decreasing. Studies and complete statistics should result in a better understanding of the disease. At a recent meeting, one of us stated that if there was a pooling of all the cases throughout the state or the country, more adequate statistics could be collected since the actual number of cases seen by one surgeon or clinic is comparatively small. With the dissemination of the knowledge of the anatomical and pathological details of the condition, undoubtedly more cases will be recognized by the general practitioner (as is true now of osteomyelitis in general) and more numerous reports of early cases will be available. Thus, these may be followed through to a cure or termination.

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—JKMS—

Aluminum in Food.—Propaganda as to possible dangers resulting from the use of aluminum cooking vessels is so persistent that one suspects ulterior motives in its background. The problem has been investigated at various times, and in the presence of a renewed criticism of the widespread employment of aluminum vessels another recent study of the subject has appeared under the auspices of the British Ministry of Health. The accurate determination of aluminum in food and biologic material, according to Monier-Williams, who wrote the report, is a difficult matter. The amount usually present is small and cannot easily be separated completely from iron and other metals. The figures for the amount of metal taken up by food from aluminum vessels vary considerably, owing to different conditions of experiment. Distilled water, whether hot or cold, has almost no action. Hard waters, however, corrode aluminum slightly and the same is true of organic acids. Aluminum is readily acted on by alkalis, and cooking utensils are therefore liable to be damaged if cleaned too often with soda. Aluminum salts in doses that are not unreasonably high have been shown to have some action on digestive processes. There is no convincing evidence, however, that aluminum in the amounts in which it is likely to be consumed as a result of the use of aluminum utensils has a harmful effect on the ordinary consumer.—Council on Pharmacy and Chemistry, A. M. A.

—JKMS—

The most important therapeutic factor in medicine is therapeutic success. It is of greater moment than are all special investigations, be they ever so exact, and than all ingenious theories.—Bernard Aschner.

## PRESIDENT'S PAGE

Members of The Kansas Medical Society:

The state organization through its officers and committees has taken a very definite stand on the problems of public health, tuberculosis, consideration of social security plans, and other legislation.

Because of that fact we have asked that various liason committees or official representatives be established in each county to be the contact committee between the Society, the board of health, and the various other lay and political organizations as the occasion may arise. We request that if this organization has not been set up in your county that it be definitely organized by the first of September.

The Kansas Medical Society has a definite legislative program, copies of which your officers have. This program should be studied carefully by your officers and by your official representatives so that they will be fully informed of all the details.

The medical profession should be definitely non partisan in its relation with and attitude toward government up to a certain point; however, when the safety of scientific medicine, medical education, public health, and medical services are to be considered, we must take a definite militant attitude for their preservation. The time has come when each of us must consider the fitness of the candidates for local, state, and national public office, and we should know that they are well qualified and thoroughly in sympathy with sound public health administration and scientific medicine as well as clean government. Our duty does not end there; we should use our influence so that our relatives, friends, and acquaintances support this man that he may be elected.

It behooves us that we should be informed, that we be alert, that we choose with care the candidates, and that each of us do our duty as citizens. If we neglect our part in civic, county, state, or national affairs, we can have no complaint if adverse legislation is passed. These are matters that should be thoroughly discussed and gone into in a non-political way in each medical organization with the sole object in view of picking for public offices candidates in whom you have implicit faith, candidates you believe to be well qualified, candidates you know to be not only in sympathy with, but will be willing to fight for sound public health administration and scientific medicine.

H. L. Snyder, M.D.



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## EDITORIAL

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### CONTEMPORARY HISTORY

There are many medical students among the readers of *The Journal* and for them in particular we call attention to an address by Dr. Henry F. Sigerist of The Johns Hopkins University Institute of the History of Medicine, on the subject: "The Medical Student and the Problems Confronting Medicine Today." The address was delivered before the third Eastern Medical Students Conference held recently in New Haven.

Dr. Sigerist, speaking of the evolution which has been taking place and is still going on in medicine, interprets current medical history in the light of the great social change that has come over the western world. A highly industrialized and highly specialized civilization has developed out of the technological advancement in all methods of production. As part of this development medical science has become also highly technical and highly specialized. The natural sciences and technology are the forces that have transformed both society and medical science. The change has been gradual but Dr. Sigerist believes that the day has come when we have become aware of it. Facing a new situation he asks, "What are we doing?" and answers "We are endeavoring by all means available to preserve old forms of medical service, forms that were adapted to a society and to a medical science that do not exist any longer . . . hence the unrest in the medical world."

The medical students were told that they will hear quite often that to be ethical for a physician is to be conservative, living up to the age old traditions of medicine. He states that this is erroneous. He believes that there are certain timeless values in the physician's ethics, the basic relationship between physician and patient exists, yet medical ethics undergo

change. Medical ethics depend upon the medical ideal and he believes that this ideal is not set by the medical profession but by society. The conflict, as Dr. Sigerist sees it, is between new realities and old forms. To orient themselves in the changing social structure it is important that medical students and young physicians familiarize themselves with history. "Become history conscious," he says, "and attempt to take the long view of things." He regards medicine as a social science and believes that medical students should be required to have a background of preparation in the social sciences.

"Let us not forget that medicine, after all is a social science, the physician's task being to keep his fellow men socially adjusted or to readjust them, as the case may be."

Dr. Sigerist makes the excellent suggestion that the group composing medical students, internes and residence physicians, numbering 35,000 in this country, is strong enough to have its own journal as a forum for discussion. Such a publication should be welcomed by the profession at large. Though we may be well adjusted to the social conditions under which we have worked, though we may not have felt the necessity for critical study of economics and social relations, it must be recognized that society is undergoing change which will effect the practice of medicine. A journal such as Dr. Sigerist proposes would make possible the free discussion of contemporary medical economic thought, based on scientific investigation and subjected to critical analysis. The Eastern Medical Students Conference should take action on Dr. Sigerist's suggestion.

### SCIENCE AND PHILOSOPHY

A subject for concern, in which the medical profession is involved, is the relation of science to philosophy. For example, the philosophy of medicine evolves from medical research. Accepting the definition of science as a method of

investigation, the generalizations or laws drawn from such research suggest ideas for further investigation. The knowledge and technology achieved by scientific research ultimately becomes a part of the culture of the social group. The philosophy of medicine, deduced from medical research should grow with the ever increasing accumulation of knowledge. The cultural lag with regard to medicine is due to the failure in effecting a synthesis of fact and idea and passing this on to the social group.

The medical profession is not an instrumentality apart from society but an integral part of it and one of the traditional functions is to teach fellowmen in the ways of conserving and regaining health. The relation of medical science to the philosophy of medicine has a direct bearing upon the value of our science. The cultural lag in the social application of medicine is full of complexity. The rate of change in some parts of the population differs from that of others and the social structure is relatively effected. Medical philosophy, with the social implications which the accumulation of scientific knowledge has brought forth, must be disseminated the entire breadth of the social group before the knowledge and technology gained by medical science can attain to full cultural value.

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## MEDICAL SCHOOL CLINIC

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### TORSION OF ASCENDING COLON AND CECUM WITH OBSTRUCTION

THOMAS G. ORR, M.D. and  
JAMES BEAVER, M.D.\*

Kansas City, Kansas

In a lifetime experience of any surgeon torsion of the ascending colon or volvulus of the cecum is quite rare. The following case is recorded as an example of torsion of the ascend-

ing colon and cecum with obstruction below the hepatic flexure due to adhesive bands.

V. W., male, aged forty-three was admitted to the University of Kansas Hospitals on August 12, 1935 and discharged on September 7, 1935.

#### HISTORY

The patient complained of pain in the right lower abdomen which began four and one-half hours before admission. The pain was gradual in its onset with increasing intensity. When admitted the provisional diagnoses were stone in the kidney or ureter or acute appendicitis. There was nothing of importance in his past history except a previous admission to the hospital four days before his last admission at which time a calculus in the ureter was suspected. At that time it was noted that the transverse and descending colons were distended with gas. A stone in the ureter was not demonstrated. At the time of his first admission the pain was chiefly confined to the right lower abdomen and was cramp-like in character without radiation.

#### PHYSICAL EXAMINATION

General inspection showed a rather poor state of nutrition. Nothing of importance was found by physical examination except in his abdomen. There was definite tenderness without muscle spasm in the region of the umbilicus. Abdominal distention was present which was more marked above the umbilicus. The urine was negative except for the presence of a few pus cells. The blood count and blood chemistry were normal. Ureteral catheterization did not reveal any stones or abnormalities of the kidney or ureter. Two days after admission a fluoroscopic examination of the gastrointestinal tract demonstrated the pyloric end of the stomach pushed high with some deformity. There was a ten per cent retention in the stomach after six hours. The remaining portion of the barium lay in the terminal ileum which was considerably distended. After ten hours the distended coils of the ileum were still visualized with barium and there was also visible distention of the small gut with gas. After twenty-four hours the small gut was still found distended and a diagnosis of obstruction of the ileum near the cecum was made. The patient was operated upon three days after admission.

#### OPERATION

A long right rectus incision was made. The

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small intestine was markedly distended. A large mass could be felt in the upper abdomen extending beneath the left costal margin. This proved to be the cecum which was displaced upward and twisted one-half turn clockwise with the appendix and ileum pointing downward. The cecum was markedly distended with gas with a diameter of approximately twelve centimeters. Tension within the cecum was so great that the serous coat was split in several places. With some difficulty the cecum was rotated back into its normal position. A constriction was found in the ascending colon just below the hepatic flexure due to narrowing of the bowel at this point from a congenital peritoneal band. The ascending colon was very narrow and fixed at this point. Obstruction was complete. There was no evidence of ulceration or disturbed circulation. The peritoneal band was divided transversely and sutured in the opposite direction releasing the constriction and enlarging the lumen of the gut allowing gas to pass freely. The appendix was thickened. It was removed in the usual way with inversion of the stump. The cecum was deflated by trocar and suction. An intestinal clamp was applied to the collapsed cecum and a large pezzar catheter inserted into the cecum and fixed with two purse string sutures of chromic catgut. The tube was also buried in the wall of the cecum by the Witzel method and sutured to the skin. The wound was closed about the tube with chromic catgut in the fascias and silk in the skin.

The operative diagnosis was torsion of the ascending colon and cecum with complete obstruction (Fig. 1).

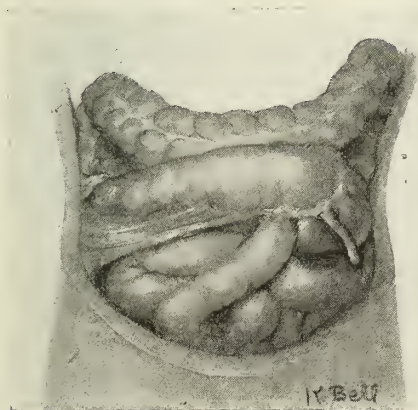


Figure 1

The operation was rather prolonged and the patient was in slight shock when he left

the table. Four days after the operation he developed marked delirium during which time there was a partial disruption of his wound. This was resutured and he made an uneventful recovery.

This type of obstruction is due to a congenital malformation resulting in an incomplete fixation of the ascending colon and cecum. The mobility of the cecum and the fixation of the ascending colon near the hepatic flexure made torsion possible.

A diagnosis of obstruction of the small intestine near the ileo-cecal valve was made. After the operation it was recalled that the abdominal distention was more marked in the upper abdomen where the distended cecum lay above the distended small intestine. The torsion in this case was only 180 degrees which probably accounted for the lack of circulatory disturbance.

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## LABORATORY

Edited by J. L. Lattimore, M.D.

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### RABIES

J. L. LATTIMORE, M.D.

Topeka, Kansas

Rabies is an infectious disease, due, probably to a sporozoon parasite, named by some workers, *neorhynchus hydrophobiae*. The virus acts mainly upon the central nervous system and is excreted by the salivary glands. The virus travels by way of the axis cylinders, thus bites upon the face and head have a shorter incubation period than those upon the extremities. The average incubation period is seventy-two days, there are, however, a few case reports of as short incubation period as nineteen days and some of more than one year.

The diagnosis of rabies is made in the laboratory upon the brain of the suspected animal. It is very important that special care should be observed in delivery of the head for examination. Never shoot the animal thru the head. Never beat the animal over the head with a club. Examination should be made within twenty-four hours or less if possible. Bac-

terial contamination of the brain often renders the brain unsuitable for proper staining and certainly unsatisfactory for implantation into a laboratory animal. If the brain cannot be delivered to the laboratory within a very few hours, it should be packed in ice.

Usually, the diagnosis is made by finding negri bodies in the hippocampus major and in the purkinje cells of the cerebellum. It is believed that these negri bodies are not parasites but probably are a result of a degenerative process. After removal of the brain from the suspected animal, smears are made from the hippocampus major and from the cerebellum. These smears are made from a fresh cut surface of the above locations. A small portion of the brain is taken between a pair of forceps and gently pressed against the slide. The slides are placed immediately in methyl alcohol for two to three minutes, removed and dried in the air. The slides are then covered with the following stain and steamed gently for two to three minutes: basic fuschin (sat. alc. sol.), three drops; loefflers methylene blue, two c.c.; distilled water, ten c.c. Then they are dried and examined with the oil lens. Negri bodies appear within the ganglion cells and are red in color with blue granules.

In some laboratories the diagnosis is made by making sections with the microtome and staining as above.

The most dependable diagnostic method is animal inoculation. This is done by macerating small portions of the brain tissue in salt solution and injecting subdurally into a rabbit. In positive cases the animal will develop symptoms of the disease within three weeks, occasionally it requires longer incubation period.

Diagnosis of rabies in many cases is very difficult and depends on cooperation between the physician and the laboratory, complete history, and delivery of the animal's head in good condition. When possible to secure the dog or animal, do not kill it but observe it for twenty days. If the animal is rabid at the time of the bite it will show definite symptoms within this period which would still provide ample time for examination and treatment.

Treatment in the human is of no value if the patient has already developed rabies. Our efforts are directed to the prevention. It seems that every dog should be given one prophylactic dose of rabies virus which will immunize them for at least a year. This treatment is not harmful to the animal. If the patient is bitten by an

unknown dog or animal upon which it is impossible to obtain observation or examination, it probably is wise to administer a series of prophylactic rabies virus. The more common used virus is the fourteen dose package, however some of the twenty-one dose is still in use. It appears that the fourteen dose treatment produces ample immunity.

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## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

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### POLITICS

The next few months will bring to light many candidates for public offices. The congenial, well-acquainted candidate, is not always the best man for the office. He may be considered the logical candidate by the party, merely because he can control a large number of votes, or because he will fit into the political machinery plans. Frequently very little consideration is given to his qualifications for the position.

The physicians in our state can lend a great deal of influence toward the selection of conscientious, qualified candidates. First, they should thoroughly inform themselves concerning his qualifications; then, acting as a committee of one, inform their patients about his qualifications.

It would be very difficult for any unqualified candidate to poll a large vote if each physician used his influence with his patients.

It is time that candidates who would try to defeat the progress of organized medicine by legislative measures were attacked in this manner.

### QUOTING OSLER

In advancing reasons for members to attend meetings and use the library, read what no less a medical authority than Dr. Osler said in the International clinics of 1910: "But after all, the killing vice of the young doctor is intel-



lectual laziness. He may have worked hard at college, but the years of probation have been his ruin. Without specific subjects upon which to work he gets the newspaper or novel habit and fritters his energies upon useless literature. Habits of systematic reading are rare, and five or ten years from his license, as practice begins to grow, may find the young doctor knowing less than he did when he started and without fixed educational purposes in life. The man who knows it all and gets nothing from the society reminds one of that little dried-up miniature of humanity, the prematurely senile infant, whose tabetic marasmus has added old age to infancy. Why should he go to the society and hear Dr. Jones on the gastritic relations of neurasthenia when he can get it all so much better in the work of Einhorn or Ewald? He is wearying of seeing appendices, and there are no more pelvic viscera for demonstration. It is a waste of time, he says, and he feels better at home, and perhaps that is the best place for a man who has reached this stage of intellectual stagnation."

The above quotation is just as apt for the field of medical economics. We need to dispense our ideas—absorb the other fellows and develop some uniform plans.

#### M.D.

The state of Oregon now has a law that requires anyone who uses the title "doctor" to designate after his name the kind of a "doctor" he is. This is a worthy lead for other states to follow.

#### REMOVE THE LABEL

If you feel obligated to give to your patient a sample bottle of medicine do not be too tired to remove the label.

The encouragement of self medication which the doctor sponsors when he hands out samples of medicine, or directs the patient to procure certain publicized preparations, is a direct means of creating a customer demand for pharmaceutical manufacturers. In many instances the physician or dentist is the best avenue for these manufacturers to educate the public to the value of their preparations.

The druggists frequently have customers who bring in a sample bottle of medicine and state

that sometime ago Dr. ———— gave this medicine to their neighbor, and they think that it might be helpful to them in their present illness, and if so, it would save them the expense of calling the doctor.

#### SOCIAL DISORGANIZATION

What happens to the doctor under compulsory sickness insurance is shown in a recent news dispatch from Austria. According to the news item, ten per cent of the physicians in that country are totally unemployed and without any means of subsistence, and twenty per cent are trying to live on fees of less than \$30 per month.—Los Angeles County Bulletin.

#### ECONOMIC INSTRUCTION

The plea for economic instruction in the medical curriculum is being raised in numerous sections of the United States. There is an old adage which states that "You cannot teach an old dog new tricks, but you can work wonders with a pup." Certainly anyone who has interested himself in medical economics during the past few years realizes the difficulties encountered in getting the practicing physicians equally familiarized with their problems.

It would seem that a course in medical economics and medical ethics might satisfy a very definite need. It could be made practical, and might well supplant some superfluous course of theory.

#### SOCIAL SECURITY ACT

The Social Security Act is now a law. It has been passed by Congress and approved by the president, and the funds necessary to put it in operation have not yet been appropriated.

Under these conditions it behooves the medical profession to set aside prejudice and show a cooperative spirit. We are too often regarded as hidebound obstructionists devoted to some tradition which is a little too mythical for the average non-medical mind to comprehend. It is unlikely that any effort to destroy private practice is contemplated in Washington. The idea that the entire medical profession is to become a mere army of salaried clerks working under the direction of some non-medical bur-

aucrat is, of course, horrible to contemplate, but let us not allow ourselves to be routed by a chimera. The best way to prevent regimentation of doctors is for doctors to show a sympathetic spirit and convince the public that we are willing to help with suggestions and administer where we can.

The Social Security Act may be so administered as to be greatly to our advantage just as easily as it can be made to our disadvantage. Why, then, look only at the possible disadvantages? Have we developed an anxiety neurosis as a result of the impositions which we have had to endure? If we refuse to believe in the good intentions of our legislators and merely oppose them without giving convincing reasons for our attitude, we are in great danger of being overrun and extinguished by the socialistic juggernaut. Let us be wise in time, therefore, and learn something from the European diplomat who defends himself by means of a graceful conciliation.—The Urologic and Cutaneous Review.

### COOPERATION

M. I. "Sandy" Hults, D.D.S., of Hutchinson, Kansas, celebrated at the Salina Meeting as the "honor guest" of the Kansas State Dental Association. The following lines are taken from an address given by him at their annual banquet on April 28, 1936:

"So let us not despair because our efforts and anticipated accomplishments have not been all that we hoped for, but keep in mind that it is the cooperation and composite action of the membership that will ultimately and unquestionably bring about the solving of the problems that confront us. We well know that dentistry's advancement, paralleled perhaps by few, if any, of mother medicine's many sidelines, has caused the average dental practitioner to "dig in," and consistently, if he hopes to see the results of his efforts favorably compare with those about him.

A thought I have held for years, and about which I am completely sold, is a better cooperative understanding among recognized branches of Medical Science—with Dentistry and Dentists—with them. Each of the many need to know the others more intimately and appreciate better how closely each is interrelated. Perhaps I had better qualify that remark by saying that the interrelation is doubt-

less known but it's cooperative practice has been neglected."

### AN INVITATION

Please submit to the Executive Secretary subjects for discussion in this column. Submit questions concerning Medical Economics. Information that might be of interest to others will be appreciated.

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## MEDICAL LITERATURE

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Edited by Will C. Menninger, M.D.

### BRONCHIAL CARCINOMA

Farrell presents a study of fifty patients with carcinoma of the bronchus which were analyzed clinically and roentgenologically. Forty-five patients were males and five were females; in twenty-three, the diagnosis was squamous-cell carcinoma, in three, adenocarcinoma, and in twenty-four carcinoma undifferentiated. The ages ranged from twenty-one to sixty-nine years, sixty-two per cent being between the ages of forty-one to sixty. Symptoms included cough, which was practically always present and which was the initial symptom in forty per cent of the cases, acute respiratory infection, hemoptysis, pain, loss of weight and strength, hemorrhage, dysphagia, wheeze, night sweats, and huskiness. There is a striking tendency for patients to disregard the early symptoms; more than half the patients did not seek medical advice until the first symptom had been present for a year or more. The most commonly found roentgen sign is evidence of atelectasis, which when found should be presumed to be due to intrabronchial neoplasm until another cause is found. Other signs are increased linear markings, mass, abscess, and pleural effusion.

Farrell, John T.: Diagnosis of Bronchial Carcinoma: A Clinical and Roentgenologic Study of 50 Cases. *Radiology* 26:261-269, March 1936.

### ROENTGEN RADIATION FOR GLIOMA

Sachs and his associates report the method and the results of their post-operative treatment for tumors of the brain by roentgen radiation. The treatment consists of radiation delivered to the tumor bed through at least two surfaces of the head. The ports have usually been over the right and left sides, but if a cerebellar lesion



was present a field directly over the occiput was often used. Single exposures have been delivered to each area, only one field being treated on one day. The dose has been repeated at intervals of six weeks, when possible, until each area has received three treatments. Treatment has been begun about two weeks after operation. A 200 kilowatt machine operating at fifteen milliamperes, a fifty cm. target-skin distance, and a filter consisting of one mm. of copper and one mm. of aluminum have been used. Each port has been twelve by twelve cm. with the beam centered over the tumor bed and directed straight through to the opposite side. The average dose delivered at each exposure was about 800 to 825 roentgens, including backscattering. Roentgen therapy was found to be effective in medulloblastomas and heman-gioblastomas, to be temporarily successful in spongioblastoma multiforme, now called glioblastoma. Improvement in symptoms in other types of glioma was seen, but since these types grow slowly, they were not considered convincing evidence of the effect of roentgen radiation. The authors conclude from their work that large doses of roentgen radiation should be used in the treatment of brain tumors.

Sachs, Ernest, Rubinstein, J. E., Arneson, A. Norman: Results of Roentgen Treatment of a Series of One Hundred and Nineteen Gliomas. *Archives of Neurology and Psychiatry* 35:597-616, March 1936.

#### TREATMENT AND PREVENTION OF TUBERCULOSIS

Pottenger gives some practical information to general practitioners in regard to the treatment and prevention of tuberculosis. He divides the symptoms into etiologic groups as follows: Those due to toxemia: Malaise, lack of endurance, loss of strength, nerve instability, loss of appetite, digestive disturbances, metabolic disturbances resulting in loss of weight, increased pulse rate, night sweats, elevation of temperature, and anemia. Those due to reflex cause: Hoarseness, tickling in larynx, cough, digestive disturbances which may result in loss of weight, circulatory disturbances, chest and shoulder pains, flushing of face, spasm of muscles of shoulder girdle and crus and central tendon of diaphragm, diminished motion of affected side (lagging), and if chronic, degeneration of apical soft tissues; and those due to the tuberculous process per se, frequent and pro-

tracted colds (tuberculous bronchitis), spitting of blood, pleurisy, and sputum with or without bacilli. Active tuberculosis is rarely present without more than one group of symptoms being represented. A carefully taken history with an analysis of symptoms, a good x-ray plate, and a proper examination of the sputum should enable the physician to detect at the time of the first examination most of the cases that seek medical aid. When the diagnosis of active tuberculosis has been made, bed rest should be ordered until it is definitely determined how and by whom the patient is to be treated. If the physician is able to carry out the treatment himself, the permanent regimen should be established at once; if not, the patient should be immediately referred, as time is an important factor. Members of the family or others who have been in contact with the patient should also be examined. If any react to the tuberculin test, an x-ray should be taken to determine pulmonary tissue involvement. If the infection is not active, no treatment need be instituted, but the reactors should be re-examined at three to six month intervals.

Pottenger, F. M.: The Responsibility of the General Practitioner in the Treatment and Prevention of Tuberculosis. *Disease of the Chest* 2:12-15, April 1936.

#### DIATHERMY IN PNEUMONIA

Stewart reports the responses he has received from his paper written in 1926 on the use of diathermy in pneumonia. Nearly every government hospital of the Army, Navy, U. S. Public Health Service, Veterans' Administration, and Old Soldiers' Home is using this measure as an adjunct in the treatment of pneumonia. His own series represents 939 cases with a mortality of twelve per cent. The technic consists of applying large electrodes, 1800 to 2800 ma. for thirty to forty minutes, every three hours, in severe cases. This treatment may be intensified when needed. Improvements noted in the literature are relief of pain, deeper respiration, improved color, slower and steadier pulse, greater ease of expectoration, and a tendency to sleep. Stewart feels that there is no need to put aside the use of serums or any other approved treatment for diathermy, but that advances in their use are to be welcomed.

Stewart, Harry Eaton: Status of Diathermy in Pneumonia. *Archives of Physical Therapy, X-ray, Radium* 17:98-102, February 1936.

## OFFICIAL PROCEEDINGS

### 78th Annual Meeting

(Continued from the July issue)

Dr. E. C. Duncan, Chairman of the Committee on Public Policy and Legislation, presented the following report of that Committee:

*To the House of Delegates:*

No session of the state legislature has been held since our last report; your Committee has not, however, been idle.

We are fully aware of dangers looming in the not distant future; the tide of legislative action both national and state is rolling on like an overwhelming tidal wave; will we ride safely the oncoming wave or be submerged?

I believe this Committee recognizes the enormity of our job as few of our members do; it seems to entangle and ensnare us! Without our Executive Secretary we would certainly sink; he stands like the look-out on a man-of-war, keen and sensitive to the dangers which beset us!

Many are impatient about the cult situation, but consider that for thirty years legislation was ignored by our society until laws were enacted and cults firmly established; then to try and get politicians and officers to act! However we have traveled far and legislators are fast becoming "Medical Society Minded" and we have more standing with them than formerly, but this takes time and more diplomacy than the treatment of a neurasthenic.

I want to thank Dr. Snyder and Dr. Hassig for their constant help and advice throughout the year, also Dr. Chambers and the other members of the Committee.

Discussion followed concerning future legislative activities of the Society. A motion by Dr. F. C. Taggart, instructing that all matters be discussed in this connection be referred to the Council, was seconded and carried.

Dr. H. L. Chambers, Chairman of the Committee on Scientific Work presented the following report of that Committee:

*To the House of Delegates:*

We, your Committee on Scientific Work for the year 1936, desire to submit the following report:

As you know, it has become the custom for this Committee to arrange, under the general direction of the Council, for the program of scientific papers at the annual meeting—and nothing more.

Since the new Constitution and By-Laws which will probably be adopted at this session, will give a somewhat enlarged field for this Committee, the meeting of Chairmen of State Society Committees which occurred at Topeka in January asked or ordered that we recognize such enlargement now and for this year. Under this arrangement, we have attempted (a) Correlation and Supervision of all Society post-graduate programs, (b) Preparation of a list of speakers available to county

societies consisting of Kansas members, members of other societies, etc., and (c) Promotion of county society programs relative to diseases of rising incidence and mortality, etc.

Complying with these general directions, the Committee met at Kansas City in February, and since the state meeting will have no scientific program this year, we spent our whole time and effort on the new work assigned to us.

Our discussions led to the conclusion that "correlation and supervision of society post-graduate programs" should be a developmental thing and should be done by stimulating the interest of the county and other societies on the one hand and the furnishing of considered and up-to-date information on the other. The most feasible means of furnishing the latter, visible to the Committee, is the group of general committees functioning out of the State Society, especially the Committees on Cancer and on Economics. However, the others appear only a little less immediately important, and some of them as Welfare, Policy and Legislation, or Public Health and Education might attain what, from our viewpoint, would be the major interest at any time.

In the matter of listing speakers and subjects, we have made some progress. At the suggestion of Executive Secretary Munns, we are contacting the Scientific Departments of only the commercial concerns that advertise in our Journal. So far they are responding satisfactorily. Already there is springing up a demand for the services of the Committee in this respect. Our letter to all secretaries of county societies may have helped somewhat.

The promotion of programs on diseases of special interest, incidence, or mortality, has not seemed to us to require any special effort so far. The constituent societies have been taking care of this phase of our work nicely. Illustrating this, a bright young man who asked to attend a meeting and to hear a prominent member's lecture, said, "I've already heard it five times and can almost repeat it from memory."

If it meets your approval, we expect to go on and make a more definite and formal list of speakers and subjects. We have understood from discussions in the Committee on Revision of the Constitution that this and other committees are expected to do work and arrange a program looking to more continuity from year to year than has been the custom. With this in mind, we are trying to organize our set up so that most of the work will not need to be repeated every year.

Dr. C. C. Nesselrode, Chairman, presented an oral report of the Committee on Control of Cancer. He discussed the results of the Cancer Control Program carried out during the past year, and stressed the fact if a similar program of public and professional meetings is attempted during the coming year the cooperation and sponsorship of lay groups must be enlisted in order to make them a complete success.

Dr. F. L. Loveland, Chairman, submitted the following report of the Medical Economics Committee:

*To the House of Delegates:*

This Committee, realizing that the unusual nature of this years House of Delegates meeting would make it



difficult to take time for consideration of matters of instruction and policy, decided that its report should consist only of a statement of activity during the past year. We hope that this action will be in accord with your desires.

Upon authority granted by the House of Delegates this Committee took steps immediately after that meeting to offer an experimental indigent medical care plan for the consideration of the county medical societies. Details of that plan were completed, opinions were received as to legal complications from several prominent attorneys, and approval was obtained from the American Medical Association from the standpoint of social medicine dangers that might be contained therein. Thereafter, a series of six sectional meetings were held with the Society members for the purpose of explaining and discussing the provisions of this suggested method. Several county medical societies adopted the method and what they have experienced thereunder has varied from good success to absolute failure. However, the Committee feels that it accomplished its aim in this direction in attempting to compile our own information as to whether or not the principle of pre-payment might offer a satisfactory answer to the indigent problem.

The Council, during last July requested that this Committee make arrangements to provide the debaters in the various Kansas high schools with suitable information to be utilized in the current debates on the subject of socialized medicine. Through the excellent cooperation of the American Medical Association, we were able to secure copies of every pamphlet that the national organization had prepared about this topic. Two series of individual packets including twenty-three pamphlets and also a release prepared by this Committee were forwarded to 200 Kansas high schools. The Committee has also supervised a large amount of correspondence with Kansas debaters.

The Committee was also asked to complete a study of the Social Security Act and to cooperate with the Kansas State Board of Health in the preparation of its plans thereunder for public health and medical activity. This has been accomplished to the best of our ability.

We have also attempted to establish a complete set of files on medical economics subjects and at the present time we have available a rather voluminous amount of material on various medical plans and operations in all parts of the country and on medical economic activities of the various other state medical societies.

Several months ago the Committee arrived at a decision that the field which it had to cover was too broad for the activities of a few men. It felt that, if it could expand its organization through use of a larger number of members, that many advantages would result. Thus, it requested and secured approval from the Council for the establishment of ten sub-committees which would comprise one representative from each county medical society to serve under the chairmanship of a member of the present committee. The present Committee therefore consists of approximately seventy-five members and represents completely all parts of the state. The program now under study by these groups is as follows:

#### THE MEDICAL ECONOMICS COMMITTEE OF THE KANSAS MEDICAL SOCIETY

1. Major Committee: Composed of a chairman and ten members geographically located throughout the state. Each of the ten members serves as the chairman of a sub-

committee. The sub-committees consist of one selected representative from every component society who is geographically accessible to his chairman. Sub-committees are assigned and work upon particular sections and problems for recommendation to and approval by the major committee.

#### II. Sub-Committees:

1. Sub-Committee on Lay Medical Economics Information.
  - A. Preparation of material on socialized medicine and other medical economic subjects for distribution through other committees of the Society.
  - B. Preparation of lay talk outlines on medical economic subjects for distribution to members.
  - C. Speakers bureaus on economic subjects for lay groups.
  - D. Placards for physicians' offices.
  - E. General supervision of matters of policy concerning presentation of economic problems to laymen.
2. Sub-Committee on Professional Medical Economics Information.
  - A. Maintenance of sections in Journal.
  - B. Institution of medical economics courses at the University of Kansas School of Medicine.
  - C. Selection and distribution of pamphlets.
  - D. Promotion of component society medical economics committee.
  - E. Promotion of component society medical economics programs.
3. Sub-Committee on Prepayment Plans.
  - A. Study and outline of all available material concerning hospital prepayment plans.
  - B. Study and outline of all available material concerning private prepayment plans.
  - C. Cooperation with hospitals.
  - D. Formulation of Society policy on prepayment.
  - E. Study of Kansas legislation concerning prepayment.
4. Sub-Committee on Medical Economics Surveys.
  - A. Development of plan for preventive medicine survey.
  - B. Development of plan for general economics survey.
  - C. Institution of surveys through other sub-committees.
  - D. Correlation of information obtained.
5. Sub-Committee on Inter-scholastic Debate Survey.
  - A. Development of plan for debate survey.
  - B. Institution of survey through component societies.
  - C. Correlation of information obtained.
6. Sub-Committee on Social Security Act.
  - A. Assistance in developing the Kansas plan for the Social Security Act.
  - B. Division and reference of portions of the Act to other committees.
7. Sub-Committee on Medical Economics Legislation.
  - A. Study and preparation of recommended new laws on economic subjects.
  - B. Study and preparation of recommended amendments to existing laws relating to economic subjects.
  - C. Study of Kansas Workmens Compensation.
  - D. Study of insurance company relations.
  - E. Study of collection agencies operating in Kansas.
8. Sub-Committee on Subsidized Groups.

- A. Study of direct relief problem.
- B. Study of work relief problem.
- 9. Sub-Committee on Non-Subsidized Low Income Groups.
  - A. Study of method applicable to agricultural districts.
  - B. Study of method applicable to industrial districts.
- 10. Sub-Committee on Secure Groups.
  - A. Accounting systems for physicians.
  - B. Installment and third party financing methods.
  - C. A manual on credits and collections.

Although medical economics is a subject which is capable of many constructions and differences in opinion, we hope that our activities during the past year have substantially met with your approval. If they have not, we shall welcome your frank criticism with the hope that our future efforts may be directed into more satisfactory channels. We hope also that the research and study possible under the above program will enable us to offer at the next House of Delegates, a considerable amount of definite information for determination of Society policy.

The following report of the Committee on Hospital Survey was submitted by Dr. E. S. Edgerton, Chairman:

*To the House of Delegates:*

Your Committee on Hospital Survey submits the following report relative to hospital activities in our state for the year 1935:

During the year there were 124 registered hospitals operating in Kansas. Thirty-two hospitals failed of registration because of failure to meet the minimum requirements of the American Medical Association. There are five more of our hospitals in this standard group for 1935 than in 1934 and again as in the year before our state shows more such institutions operating in Kansas in proportion to the total number of hospitals than does any other state in the union.

Governmental hospitals in Kansas have more than twice as many beds as non-governmental hospitals. But in 1935 more than twice as many patients were treated in the non-governmental hospitals, representing less than half the beds.

The average length of stay per patient in non-governmental hospitals was thirteen days, while in the governmental hospitals it was 108 days. These figures show that the state is assuming the care of those suffering from tuberculosis, mental diseases, cases requiring custodial care, because these ailments produce a period of disability longer than the finances of the average citizen will cover. The non-governmental hospitals then cared for the acute, short illnesses. These figures bear out the fact that the average citizen has made no provision for the really catastrophic type of illness.

There were many idle beds in the non-governmental hospitals of the state in 1935 and compared with 1934 there is seen to be a continued decrease in hospital census.

Insurance plans for hospitalization that have been put into operation have not proven a financial success to the hospitals. This has been due largely to failure to interest large groups in the plan. The individual purchasers, often times unemployed, comprise a group whose experience will prove a losing proposition.

There are six hospitals in the state approved by the A. M. A. for general internships and three approved for residences in specialties.

Fifty-six hospitals have M. D.'s at the head of their pathological laboratories and seventy-four have physicians in charge of their x-ray department. These figures are the same as for 1934.

Very little of legislative interest regarding the hospitals of Kansas happened at the last session of the legislature. However, there is constant pressure being made to open tax exempt institutions to the cults. One law that did pass authorized the establishment of county hospitals in counties of certain sizes, and requires that in such county hospitals there shall be no discrimination between licensed practitioners of different schools of practice.

A conference was held with the president of the State Hospital Association and plans considered for a joint committee from the two associations to discuss problems of mutual interest. Your Committee feels that such a plan might be a means of moulding hospital policies in accordance with recognized medical practice standards.

In the Hospital number of the Journal of the American Medical Association the Council on Medical Education and Hospitals has presented much factual data regarding the hospitals of the country. Reference is made to this Journal for detailed information, not only for the hospitals of Kansas but of the nation at large.

Dr. Lewis G. Allen, Chairman, submitted the following report of the School of Medicine Committee:

*To the House of Delegates:*

The Medical School enjoys the highest rating by all standardizing agencies.

During the year 1935 and 1936, there were 301 students enrolled in the Medical School of which eighty-seven were freshmen, seventy-two were in the second year class, seventy were in the third year class and seventy-two were in the fourth year class. There were eighty-nine student nurses. The faculty feels that the facilities of the first year class should really limit the enrollment to sixty-five or seventy students. Of the eighty-seven students enrolled at the present time, seven are doing only part time work. The facilities are crowded to the utmost in order to accommodate the additional students. The junior and senior years are limited to seventy men. Two additional men were permitted to enter the senior class to make up some back work as "holdovers" from the previous year.

The Medical School earnestly desires and attempts in every way possible to cooperate with the profession of the state. Speakers are provided for various county and regional medical societies; Journal and library books not required for teaching are frequently sent to physicians in the state with the understanding that they be returned within a week.

Approximately ninety per cent of the students enrolled in the Medical School are native Kansans. Admission is primarily on the basis of scholarship of men otherwise considered qualified for the practice of medicine. Native Missourians are admitted in return for the clinical facilities of the Kansas City General Hospital. Teaching facilities at the University of Kansas Hospital are sup-



plemented by St. Margaret's Hospital, the Kansas City General Hospital and the Children's Mercy Hospital.

Physicians of the state of Kansas may send patients to the Medical School for diagnosis, especially those patients who are unable to pay a professional fee. The physicians should, if circumstances warrant, fill out a card attesting the patient's inability to pay a professional fee and send the same with the patient. Such patients will be treated and returned with a diagnosis and suggestions as to therapy as the physician may wish. The facilities for the hospital care of this type of patient are limited and there is usually a waiting list. Preference is given to severely injured or desperately ill patients, women in labor, or those who live in communities in which adequate medical care is not available.

During the past year, four new buildings were begun. The children's building costing \$108,000 of which \$60,000 was the gift of an anonymous donor, the balance out of the PWA fund. This building is nearing completion, is a four story building and is reserved for the care of children only.

The Hixon Laboratory for Medical Research will cost approximately \$58,000, \$20,000 of which was obtained through private donation, \$13,000 out of the reserve fund of the hospital and the balance from the PWA fund. The warehouse will cost about \$18,000 of which \$10,000 was appropriated by the state legislature and the balance from the PWA fund.

The clinic building, which is to house the outpatient department, is estimated to cost \$130,000. The funds for this building were obtained from the reserve fund of the Medical School, matched by PWA funds. This building will take the place of the present dispensary building which is constructed of wood and paper and which will be torn down as soon as the new building is completed.

A colored ward building appears most badly needed. Due to a change in the policy of the WPA and PWA, plans for a connecting corridor and a ward for colored patients were disapproved. It is estimated that the ward for colored patients will cost approximately \$75,000 and will accommodate forty patients. The connecting corridor will cost approximately \$60,000, the second floor of which is to house the x-ray department and the cancer clinic. It is also estimated that an addition to the power plant will have to be made to service and heat these buildings. The excavation for both the connecting corridor and the colored ward have been done under the WPA and a request to the legislature for the \$195,000 required for these buildings is to be made. The upper two floors of the clinic building are not to be finished because of a lack of funds.

The outpatient department of the dispensary sees approximately two thousand patients a month. Approximately one-third of these patients are on the various forms of relief, particularly WPA and PWA. These patients are unable to pay the small fee charged by the dispensary. An effort has been made in the organization of a social service to prevent possible abuse of the free dispensary. Patients are admitted to the dispensary only with an eligibility slip signed by a practicing physician, a minister or social worker.

An analysis of the cases admitted to the dispensary shows that eighty per cent of the patients admitted are by eligibility slips signed by physicians, ten per cent by ministers and ten per cent by charitable organizations. This estimate does not include those individuals known

to be on the Wyandotte County relief rolls.

The physicians who sign dispensary slips authorizing a patient's admission to the dispensary should be positive that such patient is worthy of dispensary care. The profession in the neighborhood of the dispensary complains that too many unworthy patients are admitted, that the total of the small fees paid aggregate a sum they would be glad to accept in return for medical care. It therefore seems essential that physicians should be more careful that the patient whose slip they sign are not pauperized by the act and an injustice done to the profession as a whole.

The twenty-five per cent cut in the maintenance budget of 1933 has not been restored while the volume of work done by the institution has increased.

A great deal of effort is required to prevent the increase in the total number of medical students. Particularly is this true of that portion of influential people in the state who wish a friend admitted to the Medical School. The limitation appears most necessary, being determined by the facilities of the school and the demands of the standardizing agencies.

The committee feels that the more strict selection of students on the basis of probable professional adaptability might reduce the total number of students granted admission to the freshman class.

If the total number of students is not to be reduced, it would appear that the increased cost of materials and supplies will require the return of the maintenance budget to the 1933 level. The hospital is operating at capacity practically the entire year. It is so crowded at times as to make the admission of emergencies difficult. The facilities for the treatment of cancer patients are inadequate and the facilities in the Department of Radiology particularly, should be improved.

A large number of full time faculty members should be provided, both from the standpoint of the better training of medical students and the relief of the excessive demands on the professional time of the part time faculty members.

The effort that is being made to keep the University of Kansas Hospital out of the practice of medicine, the domain of the practicing physician, is commendable. This effort should be continued and financial support of the institution by the State should be kept at a level as to further discourage the objectionable tendency.

The following report of the Committee on Public Health and Education was submitted by the Chairman, Dr. H. L. Chambers:

*To the House of Delegates:*

Your Committee on Public Health and Education desire to submit the following report:

We were represented at the general meeting of Committee Chairmen, held at Topeka early in the year, and accepted, in principle at least, the seven point program of the semi-official pronouncement of that meeting.

There were in the files of the state office about twenty-five pounds—many thousand pages—of material showing what similar committees in other states have done, attempted, or discussed, and we divided this among our members for careful study and to get from it such ideas as promised anything useful or practical for Kansas.

A general meeting was held in Winfield on March 3 at which President Snyder and Executive Secretary Munns were present. The day was spent in discussion

of the material studied in reference to the seven points in the protocol.

An estimated twelve hundred miscellaneous broadcasts or articles, sources unstated, and the former release of this society were studied by Dr. Ebricht. Releases from Kansas T. B. Association, the Indiana State Medical Association, the Public Health Committee of the Minnesota State Medical Association, Bulletins of the Medical Society of the State of New York, suggestions from Mississippi, Correspondence of N. Y. Public Relations Bureau and the Do You Know stuff of the counties of N. Y. were all studied by Dr. Chesky.

Dr. Sherman had studied some of the "Do You Know" stuff of N. Y., "Medical News" also of N. Y., Indiana State "Publicity," "Your Health", the Texas "Story of Life" and a lot of "Correspondence" and other material from the Public Relations Bureau of N. Y. and he was present to articulate his reading and his thinking with the problems of Kansas.

Dr. Kelley studied the Health Committee releases of the Wisconsin State Medical Society and the output of the "Speakers Bureau" of the same state, the publicity of the Indiana State Society, the releases of the Public Health Educational Committee of the State Medical Association of Minnesota, and the work of our own Committee for last year. He was present and active all day in bringing to us the gist of his reading and the conclusions of his thinking and experience thereon.

The Chairman of the Committee was naturally present, presented an extensive agenda, developed under the seven points, and presided over the meeting with such dignity as he could muster and such show of force as was necessary.

I append a statement by Executive Secretary Munns of what was agreed upon. It does not show the discussions and the many interesting and important matters that had to be articulated, fitted together, arranged and rearranged, before this final pattern could be reached. This, in some respects, would probably be more edifying to you than a contemplation of the conclusions finally reached, but is too bulky to detail here.

Meeting of the Public Health and Educational Committee  
Winfield, Kansas, March 3, 1936.

Members present were: Dr. H. L. Snyder, President; Dr. H. L. Chambers, Chairman; Dr. F. A. Kelley; Dr. J. N. Sherman. Clarence Munns was present as Executive Secretary.

Dr. Chambers discussed several possible activities of this Committee and also the program of its activities officially adopted at the conference of Committee Chairmen held in Topeka on January 29, 1936.

The following general rules relating to lay information to be released by this Committee were unanimously adopted:

1. Only well established material and products shall be included.
2. No personal or group attacks shall be included.
3. No recognition shall be given to patented or copyrighted products.
4. There shall be a division of responsibility in the preparation of material, and all material shall be edited and approved by the Committee.

Approval was given for a project wherein this Committee will supervise the preparation of articles on various topics suitable for distribution in pamphlet form by

members as follows:

1. That information be obtained from the American Medical Association as to pamphlets it has available.

2. That the county medical societies be invited to prepare articles of this kind.

3. That members be invited to prepare material of this kind.

4. That Dr. Kelley prepare a pamphlet on the subject of Medical Fees and that Dr. Chambers prepare one on the subject of Medical Ethics.

5. That all pamphlets to be issued shall be written by members of this organization except those furnished by the American Medical Association.

6. That no pamphlet be attempted on the subject of socialized medicine until figures are available from the survey to be conducted by the Medical Economics Committee.

7. That all material in this connection shall be prepared in mat form and be made available to the county medical societies for printing if desired by local printers.

Approval was also given to a project wherein this Committee will supervise the preparation of talk outlines suitable for use by members in presenting talks before lay groups as follows:

1. That the American Medical Association be asked to forward all material of this kind that it has available.

2. That the topics to be included shall consist of talks on Kansas healing laws, preventive medicine, quarantine and other subjects relating to public health.

3. That students at the University of Kansas Medical School shall be invited to conduct research and prepare outlines for this purpose.

The Committee approved the institution of a state speakers bureau for provision of member speakers to lay groups as follows:

1. That correspondence and activities relating to the bureau shall be handled by the central office.

2. That the individual county medical societies shall be asked to select members who will be willing to attend meetings of these groups for presentation of talks on subjects suggested by this Committee.

3. That the central office shall frequently publish to various lay groups, a list of subjects and other assistance available in this connection.

4. That each lay group shall be expected to pay the expenses of the speaker or speakers it invites.

Decision was made that this Committee should assist in a promotion of similar speakers bureau activities by the county medical societies towards making a member speakers available to various local lay groups.

Information was presented concerning possibilities of Society sponsored radio talks on public health subjects and decision was made that this matter should be studied with a view toward future institution of a project of this kind.

Approval was given to a project wherein weekly news releases on public health topics will be offered to Kansas newspapers with the understanding that the Chairman shall approve and arrange a plan of procedure in that connection.

Pursuant to a suggestion by Dr. Snyder, development



of a plan for assistance in the public health portion of the Social Security Act was postponed pending receipt of further information in that regard.

Adjournment followed.

It is the impression of the Committee that several former committees have carried about the same ideas to about the same stage of development that we have. It now is our most earnest pleading that you do what you can to get the full cooperation of the membership in the trying out of at least some of the ideas and plans already laid before you. Our present hope is to make at least part of our general plan sufficiently operative to enable its own momentum to carry it on into future years.

Dr. E. J. Nodurfth, Chairman, submitted the following report of the Auxiliary Committee:

*To the House of Delegates:*

The outstanding feature of the Medical Auxiliary was the National mention of the sales and distribution of the Hygeia.

The committee officers of the State Auxiliary and a representative from each organized County Auxiliary held a joint meeting in Wichita, Kansas, March 31, 1936. This meeting being the first of its kind ever held in the state proved to be very inspiring and enthusiastic. Topics were brought up and discussed, such as seeing to it that we have medical minded legislators placed on the primary ballots for election.

Mrs. L. B. Gloyne, the State Auxiliary president, has set a very high goal for this year. She wishes the mens' society of each county to see that their ladies Auxiliary functions one hundred per cent. It will be the aim of the Auxiliary to have the Hygeia placed in each doctors family, and for each Auxiliary member to study the legislative laws emphasizing self-education of scientific medicine in order to establish educational and friendly contacts with laymen and lay organizations.

Dr. W. S. Lindsay, Chairman of the Committee on Medical History, presented the following report:

*To the House of Delegates:*

A historical survey of the year 1935-1936 indicates that Kansas medicine made substantial progress in that period toward the settlement of many of its problems.

The proponents of social medicine relentlessly continued their campaign and put forth many activities ranging from promotion of this subject as a question for national inter-scholastic debate to broadened social service and lay medical functions. The Society participated extensively in these activities. It provided all debaters in the state with numerous pamphlets and a release prepared by its Medical Economics Committee on the subject of socialized medicine. It succeeded in many instances in showing social service agencies that public health would suffer from certain fallacies in their plans. It offered affirmative assistance and medical guidance to many of these groups. It attempted to cooperate wholeheartedly with the national organization in its effort to avoid regimentation.

Relief medical attention continued to be a major problem for the Kansas profession. With the exception of certain workmen's compensation cases it received no

financial assistance from the federal government to aid in carrying this burden and only in isolated cases did it receive aid from local governmental agencies. Medicine stood almost alone as a group carrying a major portion of the relief problem without public subsidy. The Society spent a great deal of time and effort in attempting to solve this problem for itself and in accordance with its ideals for good service. An experimental plan which involved the prepayment principle and self-financing of medical obligations was offered for consideration by the county medical societies. Various committees continued and still continue to study this problem with the hope that assistance may result.

The year just closed saw the national introduction of the Social Security Act wherein for the first time extensive public grants were offered toward the improvement of certain public health problems. Various officials and committees of the Society worked diligently towards offering the assistance and cooperation of the Kansas profession in this regard.

A survey of the state was completed during the year which offered concrete information as to the great number of cultists and quacks employing medical and surgical procedure without proper licenses. Definite activity was commenced by Society officials, the Board of Medical Examination and Registration and the Attorney General toward correction of this evil.

The Committee on Control of Cancer made possible an excellent post-graduate symposium on that subject by obtaining the services of Dr. Burton T. Simpson, Director of the New York Institute for the Control of Malignant Disease, Buffalo, New York, and Dr. Charles F. Goschickter, Head of the Department of Surgery and Pathology at Johns Hopkins University, Baltimore, Maryland, for a series of six professional meetings and six public meetings in strategic geographical centers of the state.

John R. Brinkley experienced two additional defeats during the year in his litigation against the Kansas profession. The United States District Court and the United States Circuit Court of Appeals both ruled against his practices.

For the first time in the history of the American Medical Association, a national meeting of that organization is to be held adjacent to Kansas. This opportunity for Kansas was largely made possible by Drs. J. F. Hassig, L. F. Barney, and W. F. Bowen, who were instrumental in bringing this years' meeting to Kansas City, Missouri.

To encourage attendance at the above meeting, the Council ruled that the Society would not hold a scientific annual session this year. This represented, with the exception of two years during the Civil War, the only time that the Society has not held an annual meeting since its founding in 1859.

This Committee also takes pleasure in reporting that the Kansas WPA has recently offered its cooperation toward an assembly of facts and preparation of a Kansas medical history. The project which was approved by the National Director of the Federal Writers' Projects, Washington is now being placed in operation. We believe that this work will be a valuable adjunct to the history files of the Society.

Dr. J. T. Axtell, Chairman, submitted the following report of the Necrology Committee:

*To the House of Delegates:*

The following named doctors and the diseases of which they died have been collected through the kindness and help of Dr. Earle G. Brown, Secretary of the Kansas State Board of Health:

NAME	AGE	RESIDED	CAUSE OF DEATH
Clyde Leigh Appleby	56	Peabody	Erysipelas
Samuel Thomas Blades	59	Salina	Cardio Renal
Arthur Moberg	65	Pittsburg	Heart Disorder
McClure Wilson Cowan	79	Parsons	Diabetes Mellitus
George W. Jones	75	Lawrence	General Carcinoma
Gustave Adolph Loerber	60	Hoisington	Diabetes Mellitus
James B. Roberts	78	Basehon	Cerebral Hemorrhage
Columbus F. Bucklin	66	Pratt	Rupture of Bladder
Farquard Campbell	54	Kansas City	Cerebral Hemorrhage
Crafton Dewal Whitaker	84	Kansas City	Coronary Thrombosis
Soloman Ellis Allgood	84	Russell	Bronchial Pneumonia
John H. Rader	75	Caney	Angina Pectoris
H. E. Rakestraw	84	Chanute	Senile Dementia
Garrett H. Van Diest	61	Prairie View	Coronary Occlusion
Milton R. Thraiercill	72	Caldwell	Automobile Accident
Edwin T. Andiff	32	Pittsburg	Gunshot wound
John B. Brickell	71	Emporia	Coronary Thrombosis
Arthur L. Cludas	62	Topeka	Arterio Sclerosis
Elisha C. Pare	73	Osawatomie	Chronic Valvular Cardiac
Samuel Peter Reser	84	Hartford	Debility
Joseph Ellis Skaggs	50	Leavenworth	Influenza
Winston Garfield Ramey	54	Protection	Hydrocephalus
Clarence M. McConkey	63	Otis	Influenza
Lewis Scott Harvey	55	Council Grove	Apoplexy
Samuel Hophman Sidlinger	90	Hutchinson	Arterio Sclerosis
Mary Maria Bennett	83	Haviland	Mitral Stenosis
Henry Fuller Pratt	73	Topeka	Cerebral Hemorrhage
George Wm. Mattesson		Wichita	Amyotrophic Lateral Sclerosis
Emery Elmer Colby	62	Woodston	Chronic Nephritis
Fay Edwin Cauther	53	Norton	Chronic Myocarditis
Lee Cowan	52	Atchison	Acute Dilatation of heart
Henry Finley Hyndman	49	Wichita	Cerebral Hemorrhage
Katherine Stemen Hughes	73	Kansas City	Sarcoma of Mesentery
Charles J. Simmons	77	Lawrence	Appendicitis
Powhattan Patteson Truehart	84	Sterling	Bronchial Pneumonia
George D. Pendell	72	Derby	Arterio Sclerosis
Elias W. Reed	66	Holton	Pneumonia
John P. Strenx	29	Andale	Streptoccic Septicemia
George Robert Waite	59	Kiowa	Cerebral Hemorrhage
Francis Marion Trigg	75	Freeport	Erysipelas
Robert Alexander McIlhenny	69	Conway Spgs.	Apoplexy
Henry William Norrish	66	Logan	Cardiovascular Renal Disease
William S. Yates	71	Junction City	Carcinoma of Larynx
Frank Malin Wiley	80	Fredonia	Cerebral Arterio Sclerosis
Carl Theodore Philblad	61	Lindsborg	Cerebral Hemorrhage
Cassius Clay Surber	74	Independence	Mitral Stenosis of heart
Otto Elbert Harmon	61	Kiowa	Carcinoma of Jejunum
Edward Abels	80	Leavenworth	Cerebral Hemorrhage
Loring Vinton Miner	75	Sublette	Auto Accident
William Myron Edgerton	65	Wichita	Cerebral Hemorrhage



Let us pause a moment in silent respect for these our comrades. They were our friends and fellow workers. Many of them we loved dearly. Yesterday we worked side by side; today they have passed to the great beyond "from whence no traveler returns." We believe and hope the great mystery of life has been solved by them. It only remains for us to take up the great work for humanity which they have laid down. "So live that when thy summons comes to join the innumerable caravan that moves to that mysterious realm, where each shall take his chamber in the silent halls of death, thou go, not like the quarry-slave at night, scourged to his dungeon, but sustained and soothed by an unflinching trust, approach thy grave, like one who wraps the drapery of his couch about him, and lies down to pleasant dreams."

The average age at death is sixty-seven years.

A summary of the deaths reported discloses:

Heart disease .....	14
Cerebral Hemorrhage .....	9
Erysipelas .....	2
Cancer .....	4
Pneumonia .....	4
Kidney Disease .....	4
Diabetes .....	2
Apoplexy .....	2
Debility .....	2
Auto Accident .....	2
Water on Brain .....	1
Influenza .....	1
Gunshot .....	1
Nervous Disorder .....	1
Appendicitis .....	1
Blood Poison .....	1

## NEWS NOTES

### TUBERCULOSIS MEETING

A joint meeting of the Kansas State Board of Administration, the Medical Advisory Committee for the State Tuberculosis Sanatorium, and the Society Committee on Tuberculosis was held at the Norton Sanatorium on July 16.

The foremost actions taken at the meeting were as follows:

A motion unanimously carried that this group recommend to the legislature that the facilities at the Norton Sanatorium be increased as soon as possible to accommodate approximately 550 beds in order to promote fullest economic efficiency of the institution, and thereafter that additional facilities for the care of tubercular patients be located in other areas of the state.

Approval of the suggestion that the Kansas program for the control of tuberculosis be divided into the following four phases of organization and activity:

1. Clinical assistance by the staff of Norton Sanatorium.
2. Epidemiological and preventive assistance

by the Kansas State Board of Health.

3. Educational assistance by the Kansas Tuberculosis Association.

4. Correlation and supervision of programs thereunder by the Society Committee of Tuberculosis, the county medical societies, and individual physicians.

Opinion was general at the meeting that distribution of activity as above outlined and full utilization of assistance from members of the Society will tend to provide the most efficient tuberculosis program the state has ever had.

Representatives present at the meeting were: Mr. Chester Woodward; Mr. Will Beck; Dr. James Scott; Dr. H. L. Snyder; Dr. C. F. Taylor; Dr. H. L. Chambers; Dr. H. H. Jones; Dr. F. L. Loveland; Dr. Clifton Hall; and Dr. C. H. Lerrigo. Clarence Munns was present as Executive Secretary of the Society.

### LEGISLATIVE BULLETIN

A bulletin outlining a recommended Society legislative program for the 1937 session of the legislature was issued on July 17 by the Committee on Public Policy.

Copies were forwarded to the presidents and secretaries of all county medical societies and to the official representatives in counties not chartered as separate component societies.

### WORKMEN'S COMPENSATION MEETING

The International Association of Industrial Accident Boards and Commissions will hold its 23d annual convention in Topeka, Kansas, September 21-24 inclusive. G. Clay Baker, the Kansas Commissioner of Workmen's Compensation, is president of the Association. The convention is always held in the state where the president resides. The membership of the Association is composed of administrators of compensation laws throughout the states and territories of the United States and the provinces of Canada. In addition to the membership that will be in attendance there will be numbers of those interested in industrial accidents from various angles, safety-insurance and medical.

It has been the custom of the Association to devote practically a day of its four day session to phases of medical problems as applied to workmen's compensation. The program contemplates this on Tuesday, September 22, when there will be discussed such subjects as "Injection Method Treatment of Hernia"; "Effect of Trauma in Lighting up T. B."; "Measurement of Schedule Injuries under the Various Acts"; "Rating of Eye Disabilities".

In addition to the Tuesday medical program the Association will for the first time have a separate and distinct medical section for the doctors themselves. This will take place on Wednesday and will deal with a number of technical medical subjects with relationship to workmen's compensation. A number of doctors from over the United States will be here as well as local doctors to deal with and discuss some of these subjects.

Under the program of the Association the chairman of the Association's Medical Committee, and which committee sets up the medical program, is a doctor from the state where the convention is being held. Dr. J. F. Hassig of The Kansas Medical Society is chairman of

the committee this year. The other members of the committee are:

Dr. Francis D. Donoghue, Massachusetts; Dr. D. E. Belle, Ontario; Dr. James J. Donoghue, Connecticut; Dr. H. H. Dorr, Ohio; Dr. L. K. Ferguson, Pennsylvania; Dr. Geo. J. Mehler, New York; Dr. R. R. Sayers, District of Columbia; Dr. Phillip H. Kreuscher, Illinois; Dr. Walter L. Small, Missouri.

Mr. Baker, president of the Association, had this to say: "Members of the medical profession interested in the treatment of industrial accident cases and workmen's compensation are invited to attend particularly the Tuesday and Wednesday sessions of the convention. I feel that the medical profession plays a major part in dealing with the problem of compensation administration. In line with this the Association is this year extending the medical part of its program. It is impossible for the commissioners themselves to spend more than one of the four days on medical problems. The second day of medical will be devoted to the doctors themselves in a separate meeting from the commissioners. I hope that those doctors dealing with these problems will avail themselves of the opportunity being offered. The opportunity to discuss these medical problems in meeting and individually with other doctors specializing in this work and meeting with administrators should, it seems to me, make it worth the spending of these two days in Topeka."

#### PUBLIC POLICY COMMITTEE

Dr. H. L. Snyder recently appointed the following new members to the Society Committee on Public Policy:

Dr. George B. Morrison, Wichita.  
Dr. F. L. Loveland, Topeka.  
Dr. C. L. Hooper, Dodge City.  
Dr. C. F. Taylor, Norton.  
Dr. L. D. Johnson, Chanute.  
Dr. D. R. Davis, Emporia.

The additional appointments were made by reason of Dr. Snyder's desire that this Committee should be representative of all areas of the state and also through his belief that the importance of the 1937 legislature would make it advantageous to have a larger working group in this interest.

#### POSTGRADUATE COURSE

The second course of obstetric and pediatric postgraduate lectures, sponsored by the Kansas State Board of Health in conjunction with the Society Committee on Maternal and Child Welfare and financed through Social Security Act funds, commenced in the north central area of Kansas on July 27.

Plans for the event provide that a series of correlated discussions on the above topics will be presented for four consecutive weeks at the following towns:

Salina (St. John's Hospital) July 27, August 3, August 10, August 17.  
Ellsworth (Country Club) July 28, August 4, August 11, August 18.  
Hays (St. Anthony's Hospital) July 29, August 5, August 12, August 19.  
Osborne (Court House) July 30, August 6, August 13, August 20.  
Concordia (St. Joseph Hospital) July 31, August 7,

August 14, August 21.

Each of the meetings at Salina and Concordia will commence at 7:00 P. M. The meetings at Ellsworth, Hays, and Osborne are to be divided into two sessions commencing at 5:00 P. M. and 7:00 P. M.

The speakers will be Dr. L. A. Calkins, professor of obstetrics at the University of Kansas School of Medicine, and Dr. Lucius Eckles, a pediatrician of Topeka.

The meetings are open to all physicians without admission charge.

#### DR. CARMICHAEL RESIGNS

Dr. F. A. Carmichael announced recently that he will resign his position as Superintendent of the Osawatimie State Hospital, effective August 1, 1936. Dr. Carmichael has served as superintendent of the institution since his appointment by Governor Hodges in 1913, and through many activities during that time has become one of the best known executives of mental institutions in the United States.

Dr. Ralph M. Fellows has been appointed to succeed Dr. Carmichael. Dr. Fellows has served for several years as a member of the staff of the Menninger Clinic and Sanitarium and is well qualified in psychiatric experience.

#### SOUTHWEST CLINICAL SOCIETY

Announcement has been made that the fourteenth annual conference of the Kansas City Southwest Clinical Society will be held in the Municipal Auditorium in Kansas City, Missouri, on October 5-8.

The program to be presented will consist of members of the Southwest Clinical Society and also guest speakers from various cities of the United States. New features of this year's meeting will include a clinico-pathological conference to be presented by the pathologists of greater Kansas City and clinics on heart, chest, gastro-intestinal tracts, orthopedics, cancer, obstetrics and gynecology. Patient demonstrations will also be given at each of these clinics.

A public health meeting is to be held on Monday evening, October 5, at which the speakers will be Dr. J. Arthur Myers, of Minneapolis, and Dr. Milton A. Bridges, of New York. The scientific meeting on Tuesday evening, October 6, will be sponsored by the local county medical societies and will include addresses by Dr. George A. Bennett, Baltimore, Dr. Urban Maes, of New Orleans, and Dr. J. Arthur Myers. Round Table Luncheons will be held each day and will include lectures by the guest speakers. An entertainment program has been planned for Wednesday evening, October 7, and the alumni dinners will be held on Thursday evening, October 8.

A detailed account of the program will appear in the August issue of the Bulletin of the Kansas City Southwest Clinical Society.

#### ADVERTISING CAMPAIGN

Officials of the Society have held several recent conferences with representatives of the Dicklow Advertising Agency, Dallas, Texas, to discuss a public health advertise-





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ing campaign which has been developed by that organization.

The campaign consists of a series of copy relating to medical education, medical activities, and medical and public health problems and is suitable for use by either county medical societies or druggists.

A complete description of the campaign will be published in an early issue of the Journal for the information of members.

### NEW A. M. A. DIRECTORY

The 1936 edition of the American Medical Directory was completed on July 1 and is now available for general distribution.

The book is 2500 pages in length, contains a list of 183,312 physicians in the United States, Canada, and their possessions, and includes a vast amount of information concerning hospitals, sanatoriums, medical schools, medical libraries, medical publications, officers of medical organizations, and legal regulations for the practice of medicine.

A total of 165,163 practicing physicians is shown in the United States in 1936 as compared with 161,359 shown in the preceding directory published in 1934. Hospitals in the United States total 6,243 in 1936 as against 6,384 in 1934. A total of 7,684 physicians have died in the United States since 1934 and 13,157 new physicians have been licensed during the same period. Comparative totals of practicing physicians in Kansas since 1906 are shown as follows:

1906.....2,321	1923.....2,492
1909.....2,650	1925.....2,364
1912.....2,688	1927.....2,296
1914.....2,840	1929.....2,214
1916.....2,683	1931.....2,168
1918.....2,668	1934.....2,153
1921.....2,550	1936.....2,188

It is interesting to note in connection with the latter that 1936 is the first year since 1914 that Kansas has shown an increase in the number of physicians.

Copies of the directory may be obtained from the American Medical Association, Chicago, for \$15.00 each.

### SPECIAL LEGISLATIVE SESSION

The special session of the legislature convened on July 7 and closed on July 10.

Decision was made that two constitutional amendments relating to old age assistance and unemployment insurance under the Social Security Act should be referred for general referendum in the November election to determine whether or not Kansas will participate in these functions on a state-wide basis.

Although it was determined at the first day of the session that no legislative proposals would be considered, several bills were introduced. Two of these were of particular interest to the medical profession. A measure introduced by Senator Joseph McDonald, Kansas City, Kansas, purported to create a system of old age pensions and provide that no additional aid might be given to recipients of pensions except for medical and surgical attention. Another measure relating to financial assistance for blind persons contained the following provision: "A person shall be considered as blind for the purpose of this act, who has vision in the better eye

with correcting glasses of 20/200 or less or a disqualifying visual field defect, as determined upon examination hereinafter provided by an ophthalmologist licensed to practice in this state and designated to make such examinations by the state social security commission in the manner provided in this act."

Even though none of the measures introduced was passed, it is believed that several are good examples of the type of social legislation that will be introduced in the 1937 session if the above referendum is approved.

Another happening of interest was the fact that the Kansas Optometric Association issued a bulletin to the legislature advising that its members would expect equal rights to those afforded physicians in all Social Security Act legislation pertaining to vision.

### NEW LICENSEES

The following new licenses were granted by the Board of Medical Registration and Examination at its regular semi-annual meeting held in Topeka on June 15 and 16:

#### REPORT OF EXAMINATION FOR LICENSES TO

#### PRACTICE MEDICINE

Austin J. Adams, Wichita, Kansas.  
 Severt A. Anderson, Morganville, Kansas.  
 Marshall P. Ballard,  
 Conrad M. Barnes, Kansas City, Missouri.  
 John H. Basham, St. Louis, Missouri.  
 Wm. R. Berkowitz, Kansas City, Kansas.  
 Neatha V. Bolin, Kansas City, Kansas.  
 Vernon L. Bolton, Oklahoma City, Oklahoma.  
 David W. Boyer, Orange, New Jersey.  
 Richard F. Boyd, Cimarron, Kansas.  
 Raymond J. Brink, Omaha, Nebraska.  
 Caroline C. Brown, Philadelphia, Pennsylvania.  
 Benjamin Brunner, Jr.,  
 Glenn E. Burbridge, Kansas City, Missouri.  
 Robert W. Buxton, Rochester, New York.  
 Ward M. Cole, Kansas City, Kansas.  
 Walter Cummins, Jr., Kansas City, Kansas.  
 Robert M. Daugherty, Syracuse, Kansas.  
 Thos. Dechairo, Kansas City, Missouri.  
 Joseph B. Dolezal, Omaha, Nebraska.  
 Funston J. Eckdall, Emporia, Kansas.  
 Arthur C. Elliott, Orange, California.  
 Howard G. Ellis, Pleasanton, Kansas.  
 Wray Enders, Kansas City, Kansas.  
 Daniel B. Esterly, Topeka, Kansas.  
 Albert Faulconer, Arkansas City, Kansas.  
 James B. Fisher,  
 Charles S. Fleckenstein, Kansas City, Kansas.  
 Ivyl C. Fowler,  
 Ernest F. Getto, Pittsburg, Pennsylvania.  
 Norman A. Ginsberg, Halstead, Kansas.  
 Wealthy W. Good, San Antonio, Texas.  
 Wallace H. Graham, Kansas City, Missouri.  
 Harry P. Gray,  
 Frederick H. Haigler, Pittsburg, Kansas.  
 Frederick W. Hall, Kansas City, Missouri.  
 Max A. Hammel, Clay Center, Kansas.  
 Ernest E. Harvey,  
 Kenneth W. Haworth, Wichita, Kansas.  
 Henry H. Hyndman, St. Louis, Missouri.  
 Jack Kinell, Cleveland, Ohio.  
 Martin J. Koke, Paola, Kansas.



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★ Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245  
Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154  
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11

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N. Y. State Jour. Med. 1935, 35—  
No. 11; Laryngoscope 1935 XLV, 149-  
154. Proc. Soc. Exp. Biol. and Med.,  
1934, 32, 241-245. ☐

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 James T. Fowler,  
 Paul A. Lindquist, Kansas City, Missouri.  
 Paul Lowell, Des Moines, Iowa.  
 A. L. Ludwick, Overland Park, Kansas.  
 Morris D. McFarland,  
 Thos. J. Mackie, Cleveland, Ohio.  
 Geo. R. Maser, Parsons, Kansas.  
 Geo. D. Marshall,  
 Kenneth R. Monson,  
 David Movitz, Kansas City, Kansas.  
 Robert M. Myers, Kansas City, Missouri.  
 Louis R. Nash, Omaha, Nebraska.  
 John F. Nienstedt, Hartford, Kansas.  
 Morton J. Nyda, San Francisco, California.  
 Paul T. Petit, Chanute, Kansas.  
 Nicholas S. Pickard, Kansas City, Missouri.  
 Mayo J. Poppen,  
 Lyle B. Putnam, Wichita, Kansas.  
 Henry F. Quinn, Kansas City, Kansas.  
 Ray B. Riley, Wichita, Kansas.  
 Daniel C. Roane, Kansas City, Missouri.  
 Bruce B. Rolf, Kansas City, Missouri.  
 Andrew E. Rueb,  
 John M. Rumsey, Kansas City, Missouri.  
 Edward J. Ryan,  
 Leslie L. Saylor, Nat'l. Res. Bldg., Topeka, Kansas.  
 Herbert H. Schneider,  
 Emanuel I. Silk, Portland, Oregon.  
 Carl M. Smith, Kansas City, Missouri.  
 Leland N. Speer, Kansas City, Missouri.  
 William W. Stadel,  
 Charles M. Starr,  
 Samuel L. Stout, Wichita, Kansas.  
 David J. Stump, Kansas City, Missouri.  
 Luin K. Thacher, Waterville, Kansas.  
 Charles W. Tidd, Topeka, Kansas.  
 Jack S. Tucker, Ellsworth, Kansas.  
 Ralph D. Turner,  
 Charles W. Ware, Denver, Colorado.  
 Lloyd P. Warren, Jr.,  
 Don C. Weir, Griswold, Iowa.  
 Max W. Wells, Albany, New York.  
 Melbourne G. Westmoreland, Wichita, Kansas.  
 Sloan J. Wilson, Wichita, Kansas.  
 Charles L. White, Wichita, Kansas.  
 Francis T. Zinn, Stapleton, New York.  
 Newman C. Nash, Wichita, Kansas.

#### REPORT OF LICENSES TO PRACTICE MEDICINE GRANTED BY RECIPROCITY

Wayne C. Bartlett, Kansas City, Kansas. Reciprocity Michigan.

Frank K. Bosse, Atchison, Kansas. Reciprocity Missouri.

Morris R. Blacker, Wichita, Kansas. Reciprocity Nebraska.

Eugene S. Busby, Topeka, Kansas. Reciprocity Mississippi.

Harry W. Dugay, Kansas City, Missouri. Reciprocity Missouri.

Harry V. Gisbon, Fairchild, Wisconsin. Reciprocity Wisconsin.

Robert Joseph Lanning, Junction City, Kansas. Reciprocity Missouri.

Gail Arlene McClure, Lawrence, Kansas. Reciprocity Iowa.

Joseph L. Ptacek, Bronxville, New York. Reciprocity Ohio.

Norman Reider, Topeka, Kansas. Reciprocity Ohio.

John A. Ritchey, Pittsburg, Kansas. Reciprocity Arkansas.

Louis Slatin, Wellington, Kansas. Reciprocity Illinois.

DeLoss A. Wallace, Protection, Kansas. Reciprocity Oklahoma.

Wirt A. Warren, Wichita, Kansas. Reciprocity National Board Medical Examination.

Charles K. Weir, Wichita, Kansas. Reciprocity Illinois.

John Russell. Reciprocity Illinois.

Floyd C. Beelman. Reciprocity Ohio.

Lyman K. Richardson. Reciprocity Missouri.

#### WOMEN PHYSICIANS MEETING

The members of the Society will be interested in knowing that the women physicians of Kansas occupied a prominent part in the arrangements and events of the meeting of the Medical Women's National Association which was held in conjunction with the American Medical Association meeting in Kansas City, Missouri.

The Medical Women's National Association was organized in 1915 and has approximately 800 members throughout the country at the present time. All of its members must be eligible to membership in the American Medical Association and the objective of the organization is "to bring medical women into association with each other for their mutual advantage, to encourage social and co-operative relations within and without the profession and to forward such constructive movements as may be properly endorsed by the medical profession."

One of its first activities was the provision of medical care for the sick and wounded during the World War and subsequently it has established seventy-three hospitals and clinics in various parts of the world, has maintained child welfare centers and maternity services, established a training school for nurses in Greece, and for the past five years has conducted motorized medical and dental services in the mountain districts of Kentucky, Tennessee, North Carolina and South Carolina.

Dr. Elvenor Ernest, Topeka, assisted extensively in preparations for the Kansas City meeting of the organization and twenty of the sixty women physicians in Kansas registered and participated in the session. Among them were Dr. Minda McClintock, Atchison, and Dr. Emily Slosson, Sabetha, both of whom are more than eighty years of age. Dr. Etta Mundell, Hutchinson, and Dr. Louise Richmond, Hutchinson, were chosen as president and secretary, respectively of the Kansas unit of the Association. Another Kansas member, Dr. Karl Menninger, Topeka, was the guest speaker at their annual banquet.

#### MEMBERS

Dr. W. L. Borst, Topeka, has filed as a candidate for the Republican nomination for county coroner in Shawnee County.

Dr. A. D. Danielson, formerly of Concordia, has established offices in Herington where he will continue his practice.

Dr. John A. Dyer, Ottawa, recently left on a nine



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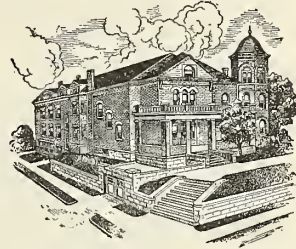
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months' study trip. He plans to spend some time at the Cook County Graduate School of Medicine, the New York Post Graduate School of Medicine, and at the University of Vienna, in Vienna, Austria.

Dr. P. C. Hardin, formerly of Arkansas City, left for Wisconsin where he will continue his practice, specializing solely in surgery.

Dr. H. C. Sartorius, Garden City, was elected chief of staff of the St. Catherine's hospital physicians located in Garden City. Dr. Sanford Bailey, was elected vice-president; Dr. G. Kenneth Lewis, secretary; and Dr. O. W. Miner, pathologist.

Dr. G. A. Surface, Ellis, has been appointed director of the pathological department in the St. Anthony hospital, Hays.

Dr. L. P. Warren, Wichita, was presented with a certificate of honor, by the members of the Sedgwick County Medical Society on July 22, for his years of faithful service and practice to the society. The presentation was made by Dr. G. E. Milbank, president, and Mac Cahal, executive secretary of the society.

### DEATH NOTICES

Dr. John L. Hamilton, 81 years of age, died at his home in Leavenworth on July 13. He had been in ill health for some time. He was born in Delaware, Ohio, in 1855, received his education there and taught school several years before entering the Ohio State Medical college, from which he graduated in 1881. He went to Leavenworth in 1885 and practiced there for nearly fifty years. He was an active member of the Leavenworth County Medical Society for many years.

Dr. Robert H. Miles, 81 years of age, died at his home in Lyndon, on June 19. He was born in Knoxville, Tennessee, in 1854 where he attended the public schools and graduated from the State Normal School of Nebraska. He was a professor in the Tarkio Schools at Tarkio, Missouri, for several years and later graduated from the University of Illinois School of Medicine at Chicago. He had practiced in Lyndon since 1895.

Dr. Jesse T. Nugent, 52 years of age, died at his home in Virgil on July 6. He was a graduate of the Washington University School of Medicine in 1909. He was a member of the Lyon County Medical Society.

Dr. Franklin Eliada Way, 68 years of age, died at his home in Talmo on June 18. He graduated from the Kansas City Medical College in 1895 and was licensed to practice medicine in 1901. He was a former member of the Republic County Medical Society.

### COUNTY SOCIETIES

The Comanche County Medical Society held its annual election of officers during July. Dr. H. F. Craig, Protection, was elected as president and Dr. D. B. Dougherty, Coldwater, as secretary.

Members of the Franklin County Medical Society were guests of the staff of the Osawatimie State Hospital in Osawatimie on July 1, at a banquet and program.

Fifteen members were present at the regular monthly dinner-meeting of the Cloud County Medical Society in Concordia on July 31. Guests present were Dr. F. R.

Croson, Clay Center, Dr. E. N. Martin, Clay Center, Dr. Richard Kiene, formerly of California, Dr. L. A. Calkins, Kansas City, and Dr. L. E. Eckles, Topeka. A business program followed the dinner.

Dr. Fred E. Angle, Kansas City, was the guest speaker on the program given by the Pratt County Medical Society at their monthly meeting in Pratt on June 26. His topic was "Undulant Fever." A number of physicians from neighboring counties were guests of the local society.

The Wilson County Medical Society met on July 9 in the office of Dr. J. W. McGuire at Neodesha for a discussion of business matters and the appointment of several local society committee heads.

### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending July 25	Month ending June 20
Scarlet Fever .....	269	530
Pneumonia .....	235	146
Tuberculosis .....	192	58
Gonorrhea .....	119	65
Whooping Cough .....	114	102
Syphilis .....	111	104
Mumps .....	59	137
Chickenpox .....	43	111
Measles .....	35	34
Diphtheria .....	24	20
Typhoid Fever .....	18	59
Smallpox .....	18	41
Erysipelas .....	17	27
Undulant Fever .....	17	4
Influenza .....	16	14
Cancer .....	14	6
German Measles .....	11	7
Vincent's Angina .....	7	20
Septic Sore Throat .....	5	4
Poliomyelitis .....	5	2
Meningitis .....	3	1
Encephalitis .....	2	1

### NEW BOOKS RECEIVED

CLINICAL HEART DISEASE—By Samuel A. Levine, M.D., assistant professor of medicine, Harvard Medical School. Published by the W. B. Saunders Company, Philadelphia, at \$5.50 per copy.

EXOPHTHALMIC GOITER AND ITS MEDICAL TREATMENT—Second Edition by Isreal Bram, M.D., medical director, Bram Institute for the Treatment of Goiter and Other Diseases of the Ductless Glands, Upland, Pennsylvania. Published by the C. V. Mosby Company, St. Louis, Missouri, at \$6.00 per copy.

INTERPRETATION OF LABORATORY FINDINGS—By Raymond H. Goodale, M.D., pathologist, City Hospital, Worcester, Massachusetts. Published by the F. A. Davis Company, Philadelphia, at \$2.25 per copy.





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**THE EXTRA-OCULAR MUSCLES**—By Luther C. Peter, M.D., professor of disease of the eye in the Graduate School of Medicine of the University of Pennsylvania. Published by Lea & Febiger, Philadelphia, at \$4.50 per copy.

**DISEASES OF THE RESPIRATORY TRACT**—Clinical Lectures of the Eighth Annual Graduate Fortnight of the New York Academy of Medicine, by twenty-one contributors. Published by the W. B. Saunders Company, Philadelphia, at \$5.50 per copy.

**PASSIVE VASCULAR EXERCISES** by Louis G. Herrman, M.D., assistant professor of surgery, College of Medicine of the University of Cincinnati and the Cincinnati General Hospital. Published by the J. B. Lippincott Company, Philadelphia, at \$4.00 per copy.

**SYNOPSIS OF DISEASES OF THE HEART AND ARTERIES**—By George R. Herrman, M.D., professor of clinical medicine, University of Texas. Published by the C. V. Mosby Company at St. Louis, Missouri, at \$4.00 per copy.

**WHY BRING THAT UP**—A guide to and from seasickness by Dr. J. F. Montague, medical director, New York Intestinal Sanitarium. Published by the Home Health Library, Inc., New York, New York.

**DISABILITY EVALUATION** by Dr. Earl McBride, assistant professor of orthopedic surgery, University of Oklahoma, School of Medicine. Published by the J. B. Lippincott, Philadelphia, at \$8.00 per copy.

**WILLIAMS OBSTETRICS** by Dr. Henricus J. Stander, professor of obstetrics and gynecology, Cornell University Medical College, New York City. Published by the D. Appleton-Century Company, New York, at \$10.00 per copy.

**PHYSICIAN PASTOR AND PATIENT** by Dr. George W. Jacoby, past president of the American Neurological Association and the New York Neurological Society. Published by the Paul B. Hoeber, Inc., at \$3.50 per copy.

**THEORY AND PRACTICE OF PSYCHIATRY** by Dr. William S. Sadler, chief psychiatrist and director, The Chicago Institute of Research and Diagnosis, Chicago, Illinois. Published by the C. V. Mosby Company at \$10.00 per copy.

**ANATOMICAL STUDIES FOR PHYSICIANS AND SURGEONS** and **REFERENCE BOOK FOR PHYSICIANS AND SURGEONS** by the S. H. Camp & Company.

#### BOOK REVIEWS

**DISEASES OF THE NOSE AND THROAT**, For Practitioners and Students—By Charles J. Imperatori, M.D., professor of clinical otolaryngology, New York Post-graduate Medical School, Columbia University, New York and Herman J. Burman, M.D., instructor of clinical otolaryngology, New York Post-graduate Medical School Columbia University, New York. Published by the J. B. Lippincott Company, Philadelphia.

The book is unique in its make-up since each subject is taken up in outline form. All unnecessary discussion so common to such text books has been deleted. It shows no evidence of plagiarism as has been the customary way of writing text books in the past generation.

It takes up the two primary problems of the practitioner and the student. What is the diagnosis and what shall I do with it? The book answers these questions adequately; and with conservatism being the theme of all treatment procedures it should save the young practitioner some embarrassing moments should he follow the suggestions found therein.

The text is complete in that the usual conditions found in the average office practice are described and the management given in outline form. It is recognized by the authors that the successful management of these so called minor conditions is the essential foundation of the successful practitioner.

H. L. Kirkpatrick, M.D.

#### THE PRINCIPLES AND PRACTICE OF RECREATIONAL THERAPY FOR THE MENTALLY ILL

—by John E. Davis in collaboration with Dr. William R. Dunton, Jr. Published by A. S. Barnes, 1936, 206 pages, price \$3.00.

The author of this book is the senior physical director at the Veterans Administration Hospital at Perry Point, Maryland. Under seven headings he sets forth his ideas on recreational therapy in the psychiatric hospital, including a discussion of the various types of exercise applicable to different diagnostic entities, the necessity of recognizing recreational therapy as an educational or re-educational procedure, a classification of interests and activities, an outline of various tests for grading individuals into activities, and finally a discussion of the aims and objectives dealing with the reconstruction of the personality as recreation can contribute to it.

The author obviously has more interest in the physical nature of his problem than the psychological. He places great emphasis on group activities, apparently because of the economic necessity in a large hospital. One has the impression he has had a great deal of experience, and he records many excellently presented observations, particularly with regard to swimming.

On the other hand the book is weak in several ways. He drags in a great number of references, as if to give his volume an erudite tone. The material seems somewhat poorly organized in that there are a great many subheads with poor continuity between them. The book is inclined too much to generalities and platitudes, and one has the impression that everything is "important." His psychiatric attitude is limited chiefly to the symptomatic approach, and his classification and psychiatric concepts and terminology are distinctly descriptive. At no place does he consider unconscious conflicts or psychic dynamics.

W. C. Menninger, M.D.

**LABORATORY DIAGNOSIS**. Edwin E. Osgood, M.D. Assistant Professor of medicine and biochemistry, Director of laboratories, University of Oregon, School of Medicine, Portland, Oregon. Second edition with twenty-seven figures in the text and ten color plates. P. Blakiston's Son and Co., Inc., Philadelphia, Penn.

This, the second edition, is a distinct improvement over a very fine first edition. The various laboratory procedures are discussed in detail. In chapter III on disorders of carbohydrate, protein and fat metabolism, the insulin coefficient is discussed. First, the diet dextrose is determined, having the patient on an accurately



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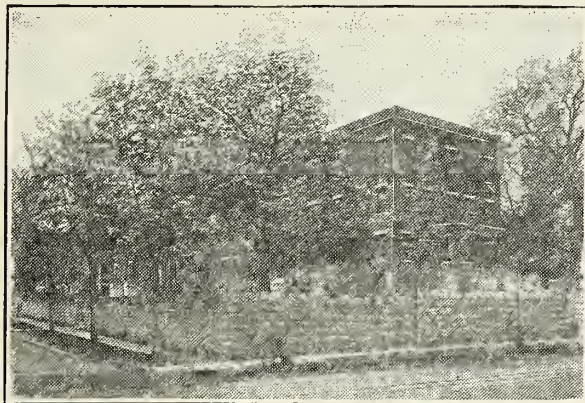
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Kansas City, Mo.

weighed diet, taking 100 per cent carbohydrate, fifty-eight per cent of the protein and ten per cent of the fat as the total dextrose intake. Quantitative sugar estimation on twenty-four hours urine is made. The difference is the grams of sugar the patient metabolizes with his own insulin. As one unit of insulin metabolizes four grams of sugar, the required insulin can be determined by dividing the above difference by four. The insulin required, minus the insulin administered, equals the insulin coefficient, or the actual amount of insulin the patient produces.

Other comparatively new technical procedures described are: The test for heterophile antibodies; the urea clearance test; blood bromine determinations; and a method for quantitative determination of proteins in the various body fluids.

Valuable additions have been made on various blood determinations, the sternal puncture, the reticulocyte counting, the sedimentation rate and studies in the histogenesis of the monocyte.

This volume, as in the first, devotes a good portion of the book to a most excellent presentation of the value and interpretation of the various laboratory tests.

A very practical book, written and arranged in an excellent manner and a most valuable addition to the laboratory library.

J. L. Lattimore, M.D.

**ABORTION**—Spontaneous and Induced Medical and Social Aspects, by Frederick J. Taussig, M.D., professor of clinical obstetrics and clinical gynecology, Washington University School of Medicine, St. Louis, Missouri.

Dr. Taussig has given us an excellent and complete monograph on abortion. He writes in detail of the ancient and medieval history of abortion. He gives clear descriptions of the etiology of spontaneous abortion. He outlines definitely the indications for, methods of induction and the complications of therapeutic abortion. He tells of the scourge of criminal abortion and its sequelae. He gives us an idea of the basis, social status, and statistics of legalized abortion. And lastly he gives us a survey of the legal status of abortion in the United States.

This book is well written, liberally illustrated and neatly published. It is extremely interesting to read and I feel should find its place on the book shelf of every physician interested in general medicine, psychoneurology, or obstetrics and gynecology.

L. R. Pyle, M.D.

#### PUBLIC HEALTH NOTES

(Furnished through the courtesy of the Kansas State Board of Health.)

The National Society for the Prevention of Blindness

reported that on July 4, 1935, there were 539 eye injuries with 57 cases of loss of sight, as a result of fireworks accidents.

The total number of deaths in Kansas to July 1 of this year is 11,660, an increase of 928 over the total for the same period of time in 1935.

Six deaths due to excessive heat were reported in June in the state.

Twenty-four diphtheria deaths have been reported to July 1 this year, which is four more than in 1935.

A total of eight typhoid fever deaths have been reported in 1936, with only four in 1935, for the same number of months.

—JKMS—

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### THE CLINICAL USE OF INSULIN WITH PROTAMINE BUFFER (Protamine Insulinate)

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FLORA ACTON, B.S., M.S.

Pittsburg, Kansas

As early as April 13, 1929, Leyton<sup>1</sup> reported the advantage of the administration of insulin in something that would delay the action so that the blood sugar would be lowered more gradually.

Hagedorn<sup>2</sup> and his co-workers have been experimenting with an insulin compound, sparingly soluble in tissue fluid, for several years and have found that a compound of insulin and nucleic acid had a more acid isoelectric zone than insulin itself. An experiment was made in which the reaction of the protamine insulinate solution was adjusted before injection to pH 7.3, whereby the protamine insulinate is precipitated.

As a result of the compound being injected as a suspension, the deposit in the subcutaneous tissue consists of a fluid of practically constant insulin concentration, from which the absorption takes place, and a steadily diminishing amount of solid particles. In this way a prolongation of the time of absorption was found to be present. They used several protamines before they finally found one prepared from the sperm of *Salmo iridius*, and thereafter used it in clinical experiments. During a period of two years they treated about eighty-five patients with protamine insulinate in the Steno Memorial Hospital.

During their hospital stay, their routine for blood sugars was five times daily. Fasting

7:00 a. m., 11:00 a. m., 2:00 p. m., and 10:00 p. m. The insulin was injected usually at 8:00 a. m. and 6:00 p. m. Their determinations were made on capillary blood by titration method according to the ferri-cyanide method.

Their patients were given a diet of about 2,300 calories individually modified. The diet contained about 100 grams carbohydrate, 70 grams of protein, the balance fat. They observed no ill effects. The injections were painless, no local reactions resulted, and protein reactions did not occur. They found the results the same in children as in adults. In coma where one wants the action to be immediate, the ordinary insulin should be used. They were able to relieve all patients completely of feelings of uneasiness due to acidosis or high blood sugar, without giving more than two doses daily.

The hypoglycemic reactions that did occur came on so gradually that the patient was able to provide for it. They found it best in most cases to give regular insulin for the morning dose, and protamine insulinate for the evening dose. In a few cases they used protamine insulinate both morning and evening, in which case they gave the doses at 8:00 a. m. and 8:00 p. m.

Root<sup>3</sup> and his group at the New Deaconess Hospital in Joslin's Clinic, have worked with this new preparation obtained from Dr. Hagedorn in vials containing five c.c. of Danish Leo Insulin of U 40 strength. They add to this five c.c. of insulin, one c.c. of a solution containing the protamine and sodium phosphate. The vial is shaken before each withdrawal of insulin.

At the time they made their report, they had treated fifteen patients with the protamine insulinate. Joslin, at the meeting of the American College of Physicians, in Detroit this year, added a great many more

Editor's Note: The Journal staff joins all other members in regretting the untimely death on August 7 of its associate editor, Dr. Howard E. Marchbanks. The above paper, which was written by Dr. Marchbanks shortly before his death, is published for the excellent scientific information it contains and as a tribute to his memory.

to their list, so they now have a goodly number taking the protamine insulinate at home. Dr. Joslin said that now the mothers of the younger diabetics could get rest at night, since they need not worry about a hypoglycemic reaction coming on in the night.

In many of their cases they have been able to get normal fasting blood sugars with comparatively small doses of insulin, ie. twenty-eight units of old insulin and twenty-eight units of new insulin on diets of C 201, P 80, F 97.

We have been able to get blood sugars with a much flatter curve, but the fasting blood sugars have thus far not been normal for many days in succession. The diet used in our case which we will report somewhat in detail was C 164, P 74, F 87.

Many methods of giving the protamine insulinate have been tried by the various workers. Root has given to some patients the protamine insulinate from sixty to ninety minutes before meals, and they think this is perhaps desirable in some cases.

In a personal communication from Dr. F. B. Peck<sup>4</sup>, of Eli Lilly and Company, he states that from the reports received, there seems to be two general methods of using this preparation. One group gives a large dose late in the afternoon or before supper, and maintains the curve throughout the day, if necessary, by the use of one or two small doses of ordinary insulin. The other group is using a large dose of insulin-protamine before breakfast, giving practically the entire amount of insulin required during the day at this time.

He also states that further information on the stability of insulin-protamine is now available. It may be safely used for as long as thirty days following admixture. Joslin stated this last fact at Detroit, but added that it should be kept in an ice box.

The patient whom we wish to discuss, W. W. V.—a fourteen-year-old high school student, was first seen by me on February 22, 1931. At that time he was nine years of age, and sugar had been discovered in his urine by Dr. Theis of Arma, Kansas, who had referred him to me for treatment.

His history was typical of early diabetes mellitus with polyuria and polydipsia. His appetite was not enormous, although he ate several cookies each day and two or three apples as a rule, besides his usual meals. He was at the head of his class in school, although his

deportment was a little low. He had been taking music outside of school hours. His mother and father and two younger brothers were living and well. No diabetes in the family on either side of which they knew. Since that time he has been on a weighed diet and insulin. He has felt well generally, and has gained in height and weight. He has carried full work at school, is still leading his class, does a lot of hunting and fishing, and some basketball.

His fasting blood sugar remained well under 200 mg. per 100 c.c. of blood, until in the early part of 1935 it began to go up; his morning blood sugar has been constantly above 300, and at times as high as 500 milligrams. On one occasion, however, January 11, 1936, we did an hourly blood sugar on his regular diet and insulin, and found it ranged from the lowest at 5:10 p. m. of 67 mg., to the highest of 294 mg. at 1:20 in the afternoon.

His mother has tested his urine three times daily all these years, and has varied his insulin according to the reaction. He took four doses of insulin daily; thirty units before breakfast, seventeen before lunch, seventeen before dinner, and from nine to eleven at bed time. This routine varied a little from time to time. For the first two years he had a diet of about C 100, P 70, and F 150; but since 1933, he has had a diet of about C 164, P 74, F 87. This has varied somewhat. For a while he took as much as 200 grams of carbohydrate, but never over 100 grams of fat, and usually about seventy grams of fat. He had numerous hypoglycemic reactions which worried his mother so much, that her sleep was constantly broken at night by fear of them.

After hearing of the new protamine insulin, we decided to use it on this patient if he cared to take it. Eli Lilly and Company sent me a supply of protamine sufficient to start with, and said we could have enough to carry on until the product was ready for distribution. His chart is shown in Figure I. It will be noted that we took five blood sugar readings each day; namely, at 7:00 a. m., 11:00 a. m., 2:00 p. m., 5:00 p. m., and 9:00 p. m. His fasting blood sugar on two occasions during the observation period, was 500 mg. for 100 c.c. of blood. He was taking seventy-two units of regular insulin daily, divided into four doses in the beginning, as is noted on the chart.

During this three day period, the blood sugar ranged from 86 mg. to 500 mg. He was then put on thirty-four units of regular insulin in



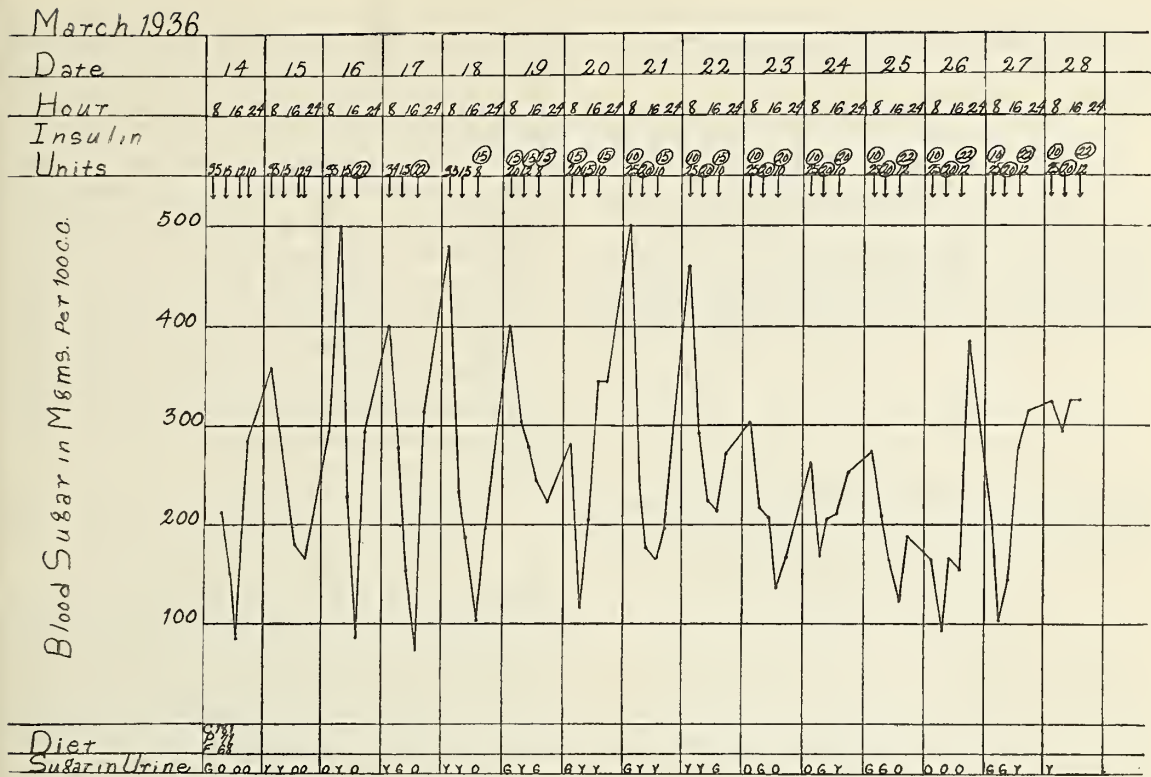


Figure 1. Master W. W. V., fourteen years of age had had diabetes for five years. The first two days, March 14, and 15, show blood sugar curves when regular insulin was used; the remaining days show the effect of the combination of regular insulin and protamine insulinate. It will be noted that the best results were obtained when the dose was divided; part being regular insulin, given in one arm, the remainder protamine insulinate, given in the opposite arm. The high blood sugar on March 26 was obtained after the patient had eaten pop corn at a picture show. Benedict's test was used for detection of sugar in urine; G representing only a trace, Y a small amount, and O none. Doses of protamine insulinate are enclosed in circles.

the a. m., thirteen regular at noon, and twenty-two protamine at night. We continued to get a low blood sugar with symptoms of shock at 5:00 p. m., so we decided to divide the morning dose into twenty-five units regular and ten units protamine insulinate, and also change the noon dose to protamine. The evening dose was likewise divided into eight units regular and fifteen units protamine, and later to as high as twelve units regular and twenty-two units protamine.

Since the patient has gone home, he has continued to take the insulin in about this way. We did, however, on April 4, divide the noon dose into ten units regular insulin and ten protamine, so that now he is getting forty-seven units regular insulin, and forty-two units of protamine insulinate daily. The curve gradually flattened out somewhat, but it is not yet what we want. We realize that this is a large amount of insulin, but we believe that it will be possible before long to reduce the amount, both of the regular insulin, and protamine insulinate, as he will be able to spend more time

in the open. He does not mind the two shots at a time at present, but one can imagine that it will soon become a factor to consider.

We hope to be able to overcome this extra shot by gradually increasing one and decreasing the other until he is taking all of regular insulin at one time, and all of protamine insulinate at another, with perhaps the third dose divided. This patient is a severe diabetic who experienced frequent attacks of insulin shock, and we believe it is in this type of patient that the new insulin will prove of value.

#### SUMMARY

We have reviewed somewhat the general nature of protamine insulinate, as described by Hagedorn and his associates, and by Root and his co-workers at the New Deaconess Hospital, and by Joslin.

We have presented a single case which demonstrates the advisability of dividing the insulin on some occasions, giving regular insulin in one leg or arm, and protamine insulinate at the same time in a different part of the

body, so as to get the immediate reaction of the regular insulin when the blood sugar is relatively high, and yet get the delayed reaction from the protamine insulinate.

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### SEVERE MENTAL DISTURBANCES ASSOCIATED WITH ORGANIC DISEASE

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Topeka, Kansas

The general practitioner, the internist, and the surgeon at times are forced into the role of psychiatrist, both as to diagnostic and treatment functions in the many instances of severe mental disturbance that occur either prior to, with, or following organic disease. It is my purpose in this paper to review briefly only the more severe types of mental disturbances that occur with physical illnesses, omitting any discussion of a great number of individuals who come to the general practitioner or specialist complaining of physical symptoms, but in whom no organic pathology can be demonstrated.

In understanding the toxic mental states it is most helpful to regard disease as a reaction of the entire individual, namely, a psycho-somatic reaction, in which always there are varying degrees of both psychological and physical response. Certain types of physical illnesses are usually uncomplicated by any marked mental reactions, but, on the other hand, severe mental symptoms occasionally become an important part of the total clinical picture. Consequently, it is essential that the general practitioner recognize the importance as well as the nature of these mental symptoms, and their relationship to the physical condition that exists.

While most standard textbooks of medicine indicate that delirium or other mental symp-

toms occur occasionally in various diseases, the mental symptoms often become so marked that they necessitate special handling of the patient. The mental disturbance often becomes so acute that the patient cannot be cared for in the home or even in a general hospital, and as a result he is delegated to the psychiatrist for treatment and must be cared for in a psychiatric hospital. In every psychiatric textbook such conditions are discussed in a special section usually under the heading of "Symptomatic" or "Toxic Psychoses." For convenience, these conditions are often referred to by the name of the organ affected or the disease: Cardiac psychosis, puerperal psychosis, uremic psychosis.

#### RELATIONSHIP OF THE MENTAL SYMPTOMS TO THE PHYSICAL DISEASE

There are at least three possible casual relationships between the mental symptoms and the physical disease. First, the physical illness may directly cause the psychosis, as in the case of a brain tumor where actual destruction of tissue takes place. Second, the physical disease may act as a precipitating agent, bringing to light a mental disturbance in a predisposed individual. Third, the physical disease may alter, or apparently even supplant, an existing mental maladjustment; for instance, one occasionally sees the symptoms of a severe cardiac disease recede on the appearance of mental symptoms.

The time at which the mental symptoms develop also varies widely: They may appear as the first and conspicuous symptoms of what subsequently develops as an organic disease of some organ or system of the body other than the central nervous system; the mental symptoms may parallel the course of the physical symptoms as being equally severe, and clear as the physical condition improves; or, the mental picture may exist far beyond the duration of the physical disease and frequently beyond a period when either a toxin or poison can be demonstrated. Occasionally, the mental disturbance appears during defervescence, and rarely, a number of weeks afterward.

#### CHARACTERISTICS OF THE MENTAL REACTION

Delirium is by far the most common mental picture associated with acute organic disease. Although this term is usually applied only to acute febrile conditions, the mental picture often is indistinguishable from a psychotic reaction

\*Read at the Post-Graduate Course in Neuropsychiatry at The Menninger Clinic April 24, 1936.



associated with an afebrile condition, or even a chronic toxic state. Delirium has been defined variously by psychiatrists: Kraepelin described it as a "Clouding of consciousness, incoherence, and hallucinations." Bonhoeffer stated in part that "The essential alterations in the fever-drug deliria are a weakness of the train of thought . . . and retention and attention disorders . . ." Bleuler stated that the "Primary defect . . . is in the faculty to combine sense impressions." Hoch defined it as "Complete disorientation, with variations in the level of consciousness, incoherence, and speech defect." We may summarize it as a syndrome consisting of clouding of consciousness, disorientation, confusion of thinking, illusions and hallucinations, followed often by amnesia for the period of its existence.

Delirium may be divided roughly into three stages in which the individual may develop only the first stage or may progress to the severe third stage. In the first stage there is a clouding of consciousness and the individual is in a somewhat dream-like state; if left to his own devices he may wander in his speech and thought, but by merely speaking to him he can be recalled to reality. In the second stage there is a greater dulling of the perceptive abilities and the individual has difficulty in understanding or grasping the actual situation. In the third stage he may develop hallucinations (usually visual) and very often will misidentify those around him. Mistaken ideas or delusions are present but are usually fleeting in character. The emotional picture varies from apathy and depression to anxiety and excitement.

The term "delirium" can be applied with equal correctness to both the febrile and afebrile mental states. In the latter conditions the mental picture differs in no quantitative degree from that of acute deliria. It is primarily a disturbance in perception: The patient is confused, is disoriented as to those about him or his location; his receptive abilities are disturbed and his memory is fleeting. It is most important to recognize that the mental picture is unrelated to the special organ affected or to the toxin, and thus, that there is no typical or constant picture seen with any particular type of physical disease. The mental symptoms depend primarily upon the individual personality makeup.

#### SEVERE MENTAL REACTIONS PRODUCED BY TOXINS AS THE DIRECT OR INDIRECT RESULT OF INFECTION

**Infectious Diseases:** Any of the infectious diseases may be accompanied by delirium or they may produce more lasting mental symptoms. As in all of the symptomatic psychoses, an infectious disease may create the mental symptoms, may precipitate the mental symptoms in predisposed subjects, or may augment or alter the mental symptoms where they already exist.

Influenza, diphtheria, measles, chickenpox, scarlet fever, pneumonia, malaria, or in fact any toxic or infectious state may be associated with or followed by, severe mental reactions. The mental symptoms that do occur often develop into typical clinical psychiatric entities but there is no constancy of any type of psychosis with any particular type of disease. Following the great epidemic of influenza in 1918 one could find typical schizophrenic, paranoid, manic excitement, or depression pictures following an influenza attack. The following case illustrates such an instance:

An unmarried nurse, aged thirty-five, was previously described as egotistical, selfish, unpopular, and seclusive. She contracted influenza and had a fever of 104 degrees which disappeared by the fifth day. She seemed normal for a few days after the fever subsided but by the tenth day after the onset she was psychotic, became mute, rigid, at times extremely talkative, feared she was going to die, insisting she still had influenza and that she had been accursed. On the eleventh day she became violent, becoming destructive. The twelfth day she was admitted to the psychiatric hospital where she remained essentially unchanged for three months. A diagnosis was made of catatonic schizophrenia.

Much more difficult to diagnose, both as to the physical disease and the casual relationship to the mental symptoms, are those instances in which the type of infection cannot be definitely ascertained. In the following case we were never able to definitely determine the type of infection present and it was certainly not the relatively simple diagnostic problem presented by the delirium associated with a specific infectious disease:

The patient was a forty-four year old housewife; at the age of twenty-nine following an attack of influenza she was for a time very talkative and restless with what was described as a "nervous breakdown." At the age of thirty-seven, following her mother's death, she had a second "nervous breakdown" in which she had choking sensations, had

difficulty in breathing, and was "very nervous." The present illness was associated with an illness of her father to whom she had been devoting much time. She could not rest and became overactive; she talked excessively, became argumentative, and began talking a great deal about religion, saying that she had had a "divine vision." She had threatened suicide and was brought to the hospital under the influence of morphine.

It was discovered that she had gonorrheal vaginitis which seemed of minor importance, and she appeared to have a great deal of pain in her abdomen. She frequently became cyanotic, developed a diarrhea up to fifteen defecations a day, and ran a temperature up to 104 degrees. At times she showed marked rigidity of the neck. At times she was acutely delirious. The blood and spinal fluid were normal. She developed an erythematous rash over her body; her mouth became sore and her gums bled. She complained of pains in her joints, and despite a tremendous amount of sedative medication could not sleep. Her temperature remained high and she developed edema of the extremities. This whole process continued for a period of a month; we were not able to locate any definite organic etiology, and yet the whole picture was definitely a toxic psychosis. The mental condition gradually cleared up and she was discharged recovered, seven weeks after admission.

The role played by focal infections in the production of mental symptoms has been the subject of much research, and a few adherents place great importance on this cause. The majority of psychiatrists believe that focal infections such as an abscessed tooth or chronic tonsillar infection may, in some instances by a sufficient physiological burden, produce mental symptoms in a predisposed individual. In every case, it is advisable to clear up obvious foci of infection, but, on the other hand, it is unwarranted and inadvisable to remove tonsils or teeth in a mentally ill patient when there is no definite evidence of their contributing influence.

#### SEVERE MENTAL REACTIONS FROM ENDOGENOUS CAUSES OTHER THAN INFECTIOUS DISEASE

**Physical Exhaustion:** Mental symptoms undoubtedly occur from extreme physical exertion, starvation, or from wasting disease. They may occur following an infection in which the individual has become rundown, even though the infection itself may have subsided. The popular conception that overwork causes mental breakdowns is probably erroneous. In those instances where overwork has occurred it is probably more correct to assume that the overwork itself was an early

symptom of the failure on the part of the individual to adjust to his situation.

**Cardio-renal Disease:** In a small percentage of cases the combination of a diseased heart and kidney may produce mental symptoms. Again, these are usually disturbances of perception with impairment of memory and a delirium differing little from that associated with febrile illness.

A woman of sixty-two years became confined to her bed following an attack of lumbago. She was very restless and after about three days became delirious; she did a lot of laughing and senseless talking, but with this the pain apparently disappeared. The heart showed evidence of mild carditis; the blood pressure was 160/80; there was an increase of nitrogen retention in the blood, and a great deal of albumin and some casts in the urine.

**Cardiac Psychoses:** Severe mental reactions associated with heart disease most commonly take the form of depression and anxiety associated with ideas of suspicion and fear. The cause has been ascribed to an anemia of the brain. Such mental reactions, are most often associated with cardiac decompensation, in people over forty-five years of age who show arterial changes. Not always, but frequently, the blood pressure is elevated beyond 170. One must consider the complicating factor of the medications used in such cases, namely, digitalis and quinidin, which sometimes alone are known to produce mental symptoms. The treatment for such cases should include the cessation of any questionably toxic drugs, isolation from visitors, and even from the family, and sufficient sedation to obtain rest in bed.

A man sixty-one years of age had for many years had an aortic lesion with recurrent periods of decompensation. Ten days before he was seen he became confused and delirious. He was disoriented, talked of "going to a trial," believed that people were watching him through the windows and that he was being talked about. His heart was enlarged, the blood pressure was 180/110 and there was evidence of early decompensation. Despite intensive treatment he continued to fail and died about two weeks after he first became ill.

**Kidney Disease:** Uremia is often accompanied by mental changes. In the early stages the individual may be excited with a varied picture of delusions, often typically delirious. If the physical illness progresses the individual usually becomes apathetic, indifferent, and finally comatose. Convulsions are a frequent part of the picture. The treatment consists in the use of the Karell diet, salt restriction, isolation for the sake of excluding external stimu-



lation, sedation, and a high elimination by forcing fluids and ample catharsis.

The illness of a forty-six year old woman whose past history was negative began with concern about her daughter's pregnancy. She became paranoid toward her husband about the daughter's pregnancy and six months after she was first seen the child was born. During the preparation for the event she seemed to faint; when she regained consciousness she was mildly delirious and remained so for five days. She improved for a week but then became rambling in her talk and ideas, and gradually developed a severe delirium. She complained of severe headache and of pain in the abdomen and rectum. She developed nearly complete anuria. Her blood pressure was 115/75. She was alternately drowsy and talkative, speaking with a muttered thickened speech with fleeting hallucinations and delusions. The blood urea nitrogen was 45.7 mgm. (normal 10 to 18 mgm.) The urine showed much albumin and a high specific gravity. With intensive care she recovered.

**Neoplastic Disease:** Mental symptoms may mask neoplasms of various organs such as cancer of the pancreas, lung, esophagus, stomach, or bladder, and are very frequently associated with various stages of cancerous growth. It is most important to recognize that the mental symptoms may be the first and conspicuous symptoms of a new growth, as is well illustrated in the following case of cancer of the pancreas described by Yaskin:

A man of fifty-six, a merchant, had a negative past history and was well adjusted socially and economically. His illness began with weakness, fatigability, anorexia, and insomnia. Symptoms developed gradually along with a feeling of depression and crying spells. He had a feeling of anxiety and imminent danger to his life. There were no gastro-intestinal symptoms except anorexia and no pain except vague periodic backache. The general physical and neurological examinations were negative. The diagnosis of neurasthenia and spondylitis was made. Four months later the patient began to vomit and was nauseated and the mental symptoms were aggravated. Following a fluoroscopic examination of the gastrointestinal tract a diagnosis of cancer of the pancreas was made; this was verified at operation.

**Endocrine Disturbances:** There is no typical psychosis in any type of endocrine disturbance. In a previous paper I have described at some length the various personality deviations associated with endocrine disorders. Briefly, I may review that in pituitary disorders one frequently sees mental retardation associated with the pre-adolescent adiposogenital dys trophy. A schizophrenic reaction is often associated with the post-adolescent hypofunction of the posterior lobe. In both types of illness

pituitary therapy given hypodermically is often effective.

In the thyroid disorders severe reactions are infrequent although mild reactions are common. In hyperthyroidism there is no constant set of mental symptoms, though in myxedema apathy and indifference progressing to dementia is often seen.

**Hypoglycemia:** In severe diabetes one observes depression, sluggish mental activity, and diminished volitional activities; rarely does one find a toxic psychosis directly associated with the diabetes.

This patient was a man aged fifty-seven; he had a college education and was unhappily married. He was found to have diabetes seven years previous to his examination but had felt well and had taken no treatment. He developed leg pains and came for treatment. A glucose tolerance showed very high blood sugar levels: fasting 331 mgm., one hour 647 mgm., two hours 579 mgm., three hours 628 mgm., four hours 524 mgm., and five hours 415 mgm. per 100 cc. He was treated with diet and insulin and his symptoms disappeared; he continued treatment for eighteen months but after five months of neglect then he reported with a gangrenous left toe. He was hospitalized but lived only two months. There was a slight extension of the gangrene, which then dried, but with some sloughing of the side of the foot. Despite insulin and diet, his blood sugar repeatedly fluctuated above normal, as high as 300 mgm. For approximately two weeks prior to his death he became very confused, and disoriented and expressed delusions chiefly concerning his clothing, that he had lost it, or that someone had stolen it a year ago. His remote memory remained fairly intact but his recent memory was very unreliable. The possibility of toxic absorption from the gangrenous area as the cause of his mental symptoms seemed unlikely to several physicians who saw him at this time. Except for the last two days he was afebrile. The day prior to his death his urine was free from sugar and acetone although his blood sugar mounted to 415.0 mgm. He developed pneumonia and died. Autopsy findings disclosed no brain changes except those of pneumonia and diabetes.

**Hyperinsulinism:** A persistent hypoglycemia (hyperinsulinism) is now recognized as a clinical entity, and is often associated with an acute confusional state.

A woman aged fifty complained of headaches of four days duration and dizziness of recent onset. She had had amenorrhea after a hysterectomy at forty-three. The headaches would disappear on lying down, but they gradually increased in severity until the patient was in almost constant severe pain. At times there was transitory confusion and inadequacy of thought. The day before she was hospitalized the patient started to talk but succeeded only in jabbering; however, this disturbance disappeared suddenly. The physical examination was

negative though there were minor neurological abnormalities. The initial fasting blood sugar was forty mgm. The patient acted "queerly" for several short periods, declaring that she was "going crazy," that there was something the matter with her head. Occasionally she was tearful and would kick her legs in the air. Subsequent blood sugar tests were very low; the patient responded promptly to small frequent feedings. Later a laparotomy was performed which revealed a marked cirrhosis of the liver, but no abnormality of the pancreas.

Tetany as well as adrenal tumor is occasionally associated with severe mental symptoms.

Pregnancy: It is desirable again to point out that pregnancy may cause or precipitate or aggravate a disordered mental state. The severe mental reactions are most likely to occur with the first pregnancy and often there is no toxic factor evident. Rarely one observes the Korsakoff syndrome in hyperemesis states in which there is confusion and delirium associated with polyneuritis. No consistent mental picture is observed in the so-called puerperal psychoses; about thirty per cent are toxic, and the remainder fall in the groups of schizophrenia, manicdepressive psychoses, or the psychoneuroses.

A young woman aged twenty-two who was the mother of a five year old child gave birth to a stillborn child at home. She had been under some stress during the pregnancy because of her husband's failure in business, but had shown no marked mental changes. She showed no interest in getting up after the confinement but complained vaguely of occasional headaches and gall-bladder distress. Six weeks after her confinement she was taken to a general hospital. After two weeks there she began to talk queerly, ate only if she were spoonfed and became sluggish in her responses. At this time she was transferred to the sanitarium. She began to act childish, repeated a question asked her rather than answering it; she gradually became mute and rigid, and had to be tubefed. She presented the typical picture of catatonic schizophrenia. She improved remarkably after about six weeks in the sanitarium and was discharged as recovered. She has continued to be well, now five years afterward.

#### SEVERE MENTAL REACTIONS FROM EXOGENOUS POISONS

Various drugs, some of them in common use, may cause severe mental symptoms. The bromides often produce severe mental reactions characterized by excitement, confusion, agitation, and hallucinations. In the normal individual a test for bromides in the blood is negative. When the blood bromides amount to less than 100 mgm. per 100 cc. there are rarely symptoms; when the bromides are between 100 and 150 mgm. one may see mild confusion

and depression; when the bromides are between 150 and 300 mgm. there is usually agitation, severe confusion, and hallucinations; when the bromides are over 300 mgm. one may see stupor and neurological signs. The treatment consists chiefly of the administration of sodium chloride by mouth of twenty to thirty grains three times a day with increased fluid intake and ample elimination.

A housewife aged fifty-nine who had auricular fibrillations had received forty-five grains of bromide per day for three or four years. She complained that there were bugs on her skin, and chickens and other animals in her bed. In addition to the auricular fibrillations she showed pitting edema over both ankles, nystagmoid jerkings of the eyes, tremor of the hands and absent abdominal reflexes. She was disoriented and had both visual and tactile hallucinations. Laboratory examination showed 180 mgm. of bromide per 100 cc.

Alcohol has long been recognized as a poison capable of producing severe and often irreparable mental pictures. One of the most difficult therapeutic problems is seen in the Korsakoff syndrome, illustrated in the following case.

A railroad telegrapher forty-six years of age had been drinking for about thirty years and drinking heavily for the last ten years, though this had never interfered with his work. Four months prior to admission to the hospital he began to have pain and weakness in his legs; his business efficiency was unimpaired. He became partially confined to his bed and about a month before admission developed a heart attack which has kept him confined to bed most of the time. Two weeks before he was hospitalized he began to show lapses of memory, mostly for recent casual conversation. He believed that his wife was losing her mind. On examination the patient showed a residual ataxic gait which made locomotion exceedingly difficult. The deep reflexes were asymmetrical and gross tremors were present; muscle power was diminished. The findings were indicative of mild peripheral polyneuritis.

The barbiturates may also produce mental reactions in susceptible individuals with the production of fever, confusion, agitation, and perhaps even stupor. Many other drugs including nicotine, cocaine, quinidin, and morphine have all been reported as producing psychotic reactions.

Of the metals arsenic is by all means the most important because of its use in the treatment of syphilis. A great many reports have been published of the toxic effects of arsenic, and recently even tryparsamide has been indited as occasionally causing severe mental reactions. The treatment in such instances is limited to



the administration of sodium thiosulphate intravenously and continuous spinal drainage. Lead and mercury are also capable of producing delirious episodes.

Carbon monoxide frequently produces severe mental changes and it is extremely important to know that the individual may appear to have recovered from the immediate effects of the poison only to have the mental symptoms develop several days or weeks afterward. Characteristic of all monoxide mental reactions is confusion with amnesia; often a Korsakoff syndrome with neuritis and fabrications is produced.

A doctor, aged thirty-eight, had a history of two previous periods of depression, one of which lasted four months. Two years previously his wife died in childbirth and the child lived; he engaged a nurse to look after the child and became attached to her. As the affair progressed he became depressed and questionably attempted suicide by carbon monoxide poisoning by going to sleep in his car in the garage.

The clinical picture two weeks afterwards was a complete amnesia for the event and for subsequent events; he was unable to remember events from hour to hour as they happened during the day. He showed a neuritis of the right posterior femoral cutaneous nerve probably accompanied by sacral radiculitis with a consequent motor involvement. The neuritis very slowly improved but the mental condition remained essentially the same for several months.

#### SEVERE MENTAL REACTIONS WITH ORGANIC CENTRAL NERVOUS SYSTEM DISEASE

This group of illnesses are not usually regarded as symptomatic psychoses since the primary seat of damage is in the nervous system itself. Nevertheless, they all represent organic disease in which there are conspicuous mental changes. With perhaps three exceptions they all represent either destruction or degeneration of the brain or spinal cord tissue and include such disorders as tumors, cysts, neurosyphilis, cerebral arteriosclerosis, encephalitis of various types, and the degenerative diseases like Huntington's Chorea, paralysis agitans, and multiple sclerosis.

There are certain types of disease reactions in which the nervous system is involved only as a part of the process, with the disease expressing itself in other organ systems, of which we should mention two of the more common examples.

**Pellagra:** Approximately forty per cent of the cases of pellagra show some mental symptoms and approximately 7.5 per cent show

psychotic reactions. In the cases showing severe mental symptoms one finds an axonal degeneration of the cortical nerve cells, and the process may affect the brain or the spinal cord, or both. The mental picture resembles that of the toxic psychoses either as an acute delirium or in some instances as a simple retardation. In all such cases, however, there are physical evidences present to make the diagnosis, specifically, the skin lesions, the "strawberry" tongue, and gastrointestinal symptoms. The treatment consists in giving the patient a high caloric diet with yeast, orange juice, tomato juice, and giving hydrochloric acid by mouth.

A retired Baptist minister sixty-seven years of age presented a previously normal history. Following the death of a sister and a series of religious disappointments he became depressed and the depression gradually increased. After six months he reached a stage where he felt that he was "eternally damned" and developed delusions of persecution. Physically, he showed the typical skin lesions of pellagra on his wrists and the "strawberry" tongue.

**Pernicious Anemia:** Severe mental reactions take place in this disease in about one per cent to three per cent of cases. They may occur early or late in the course of the illness, and show no definite relationship to the degree of the anemia. They may be present with or without severe spinal cord involvement. The mental picture varies, with some individuals showing a strong paranoid trend and others showing a conspicuous picture of anxiety and depression, and still others a delirious, confused state. The mental picture, however, in itself, usually suggests its cause as an organic disturbance of cerebral function, surcharged on a predisposed personality.

With treatment the mental symptoms, and in some instances even the neurological symptoms, show a remarkable improvement. The treatment consists chiefly in the intramuscular injection of liver extract, beginning with three cc. two or three times weekly, and as improvement occurs reducing the injections to once in two weeks; they must be kept up indefinitely.

A man aged sixty-eight had over a period of six months become noticeably weak, complaining of shortness of breath, loss of appetite, and extreme weakness. No medical examinations had been made. He rather suddenly became irrational, accused his family of persecuting him, talked of being poisoned, and became quite agitated so that it required morphine to keep him quiet. Neurologically, he showed a typical picture of combined sclerosis with very marked paresis. He was unable to stand on

his feet and vibration sense was entirely absent below the waist line. The hemoglobin was thirty-six per cent, red blood count 3,200,000. On intensive liver diet and medication he improved so that in six weeks he had become quite rational and was able to walk out of the hospital. Three years later he was able to drive his car, felt well, and was mentally clear but was still taking liver.

#### THE MANAGEMENT OF DELIRIUM

The management of delirium is essentially the same as that of any acute excitement. No adequate treatment can be given in the home and one is often greatly handicapped even in the general hospital. Furthermore, the treatment depends on the nature of the existing organic disease for obviously a febrile toxic person must be treated differently than one with an afebrile delirium; consequently, one can only postulate generalities in management.

**The General Management in the Hospital:** There are three essential points in the care of the delirious state. First, all external stimuli in the form of visitors and unnecessary manipulations, should be eliminated; in other words, the patient should be isolated from his relatives and all unnecessary contacts with the external environment. Second, one must always consider the protection of the patient as well as that of the environment, taking the necessary precautions against suicide, erratic behavior, such as jumping out the window, or injuring himself or others. Third, the acute delirious patient needs continuous surveillance and too much stress cannot be placed on the desirability of having some alert nurse in constant attendance every minute.

**Drugs for Sedation:** Sedation is almost always necessary and individuals vary widely in their response to different drugs. For short periods we have found intravenous and intramuscular administration of luminal, sodium amytal, paraldehyde, or morphine most satisfactory. For longer periods of sedation (and sometimes it is desirable to keep an individual asleep for several days) we prefer the oral administration of a luminal-barbital mixture made up of one and one half grains luminal and five grains barbital per dram in a vehicle of lactated pepsin. This can be given safely over a period of several days, care being taken to watch the intake and output of fluids and elimination.

**Mechanical Restraint:** In the afebrile patient the ideal situation is to permit the

individual freedom in an empty locked room in which the window is protected by a screen. Sheet restraints are easily applied and often suffice for the mildly delirious patient. Wet or dry sheet packs are effective for the more severely excited individuals and perhaps the best sedative effect from any physiotherapeutic procedure is obtained from continuous immersion in warm water in the bathtub. Ideally one needs the specially constructed seven foot tub in which the patient lies suspended in a hammock. He may be kept there for as long as eight or ten hours if the pulse, temperature, and respiration are carefully observed and remain within normal limits.

**Supportive Measures:** In every delirium one must automatically assume responsibility for the nourishment, the elimination, and particularly for the necessity of increasing the fluid intake. The latter may be accomplished orally or by tube but when this is impossible because of emesis the individual should receive the fluid hypodermically, either intramuscularly or intravenously, with not less than 3,000 cc. daily. Elimination can be obtained by either colonic irrigations or enemas.

**Specific Measures to Meet the Disease:** In every instance the methods suggested above to manage the delirium should be supplemented by treatment for the specific organic disease, i. e., the counteraction of the toxin, the administration of saline in bromide intoxication, the high caloric diet in pellagra, or the lumbar puncture in delirium tremens.

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# MODERN TRENDS IN DEEP X-RAY THERAPY WITH PARTICULAR REFERENCE TO HIGHER VOLTAGES\*

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During the past five years a number of observations have been made as to the relative effectiveness of very high voltages in deep roentgen therapy. While a few installations have been widely heralded as million volt x-ray machines, the actual voltages employed have usually varied from 500,000 to 800,000 volts, although in one instance 900,000 volts has been employed over a rather long period of time. After visiting several of the institutions that have been working with "supra-voltages" in this country, one can appreciate the difficulties that have been encountered in the development of this type of irradiation. In the first place, the original cost of the equipment is almost prohibitive and its operation often requires the combined efforts of a small corps of experienced workers. Moreover, there is considerable question at the present time as to how high the voltage must be in order to realize the advantages of "supra-voltage" x-rays.

Recent improvements in tube design have made equipment of 300,000 and 400,000 volts capacity as mechanically and electrically trustworthy as the most modern types of 200 KV apparatus. Since December 1934 we have been operating a Villard circuit type of therapy equipment at 300,000 volts, using a filter of two to five mm of copper, (i.e. an effective wave length of .10A to .07A) and a skin target distance of eighty to one hundred cm. Detailed reports of the output of this machine, the physical characteristics of the irradiation and data regarding the erythema values and depth dosage are being published elsewhere. Clinically we had been impressed by the fact that the tissues tolerate very much larger doses of the higher voltage irradiation and that the immediate tumor regression is better than can be attained by the smaller dosages employed at lower voltages. On the other hand, we know that few phases of medicine have developed more rapidly than radiology, and this rapid growth makes it difficult to evaluate

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The main hope of organized medicine lies in the integrity of the basic unit—the county medical society. One's medical allegiance is to the county society first; the hospital staff meeting, the informed cloak room conference, the specialist group meeting, the section or branch societies, where they exist should not be permitted to usurp loyalty to the county medical society. They are primarily for the advancement of scientific medicine. By and through the county medical society, the general interests of the profession must stand or fall. Without strong cooperative county societies, neither the state nor national medical associations can render their most effective service. In the common interests of all, never were the active support of and loyalty to the county medical society of greater moment.—The Journal of the Michigan State Medical Society.

recent trends in irradiation therapy. In most instances there has been little opportunity for individuals to employ more than a few of the many possible combinations of equipment and technique, and a great deal of discussion has arisen as to the relative merits of different voltages, different filters and different methods of applying the roentgen rays. Yet at the present time there is little reason to believe that a single quality of irradiation will ever be designated as the most desirable and effective for all types of x-ray therapy. Our technique must be suited to conditions as they are encountered in the individual case. Early in the course of their development it became evident that very high voltages have a somewhat limited usefulness and should not be employed for the treatment of all types of malignancy. In the following discussion the factors determining the effectiveness of x-rays at a depth are considered in relation to the indications for the use of higher voltages in deep roentgen therapy.

#### FACTOR DETERMINING THE PERCENTAGE DEPTH DOSE

In any consideration of x-ray treatment one must clearly distinguish between superficial and deep therapy. The use of the former term implies a condition wherein the lesion is on the surface of the body and only skin deep in its attachment to underlying structures. Whenever a tumor is situated beneath an intact skin and other normal tissue, the problems underlying so-called "deep therapy" must be taken into account. In all cases the results would be most ideal if the destructive effects of irradiation could be confined within the tumor itself, with little or no ill effect in adjacent normal tissues. In superficial therapy such conditions can be attained by the employment of a quality of radiation so "soft" and non-penetrating that its energy is entirely spent within the thickness of the tumor tissue. Underlying structures are not appreciably altered by the absorption of such soft low voltage x-rays in the surface layers. However, it is obviously impossible to deliver x-ray energy to lesions in the interior of the body without a considerable proportion of the irradiation being absorbed in the overlying superficial tissues. As far as the purposes of deep therapy are concerned, the effectiveness of any beam of irradiation depends upon the proportion of its energy that can be delivered into and absorbed within the depths of the lesion.

The percentage depth dose is an expression

of the intensity of a beam of x-ray when measured at a depth of ten cm compared to the intensity of the same irradiation as it strikes the surface of the overlying skin. In order to reconcile many apparently conflicting statements in regard to the "depth dose" it is necessary to keep in mind the factors which determine that figure.

Figure 1 illustrates the manner in which a longer skintarget-distance may be employed to increase the percentage depth dose. We consider the resistance that a ten cm thickness of tissue offers to the passage of x-rays as only partially responsible for the decrease in the intensity of the irradiation at that depth, a sizeable proportion of this loss is simply due to the fact that the lesion is ten cm further away from the target than is the intervening skin. That proportion of the loss of intensity which is due to this factor (increasing distance) can be made relatively small by employing a tube-to-skin distance that is long in comparison to the skin-to-tumor distance. In other words, by taking advantage of the law of inverse squares and employing a longer skin-target-distance, the percentage depth dose can be considerably increased.

Figure 2 illustrates the manner in which an increase in the size of the portal may also increase the percentage depth dose. The size of the portal used determines the volume of the tissue irradiated. The quantity of energy being absorbed in any one unit of that volume depends not only upon the rays that primarily penetrate to that particular area but also upon the rays scattered into that region from surrounding volumes of irradiated tissue. There is every reason to believe that within certain limits, the larger the portal the higher the percentage depth dose. Applied to deep therapy, this would suggest that the use of a few large portals produces more effective irradiation at a depth than when the same volume of tissue is irradiated by means of a greater number of smaller fields.

While the percentage depth dose can thus be improved by the use of larger portals and a longer skin-target-distance, it is evident that such methods do not affect the one factor which primarily determines the effectiveness of irradiation at a depth. The "hardness" or the penetrating power of roentgen rays is fundamentally determined by their wave lengths, which, in turn, is primarily determined by the voltage that is applied to the x-ray tube. Figure



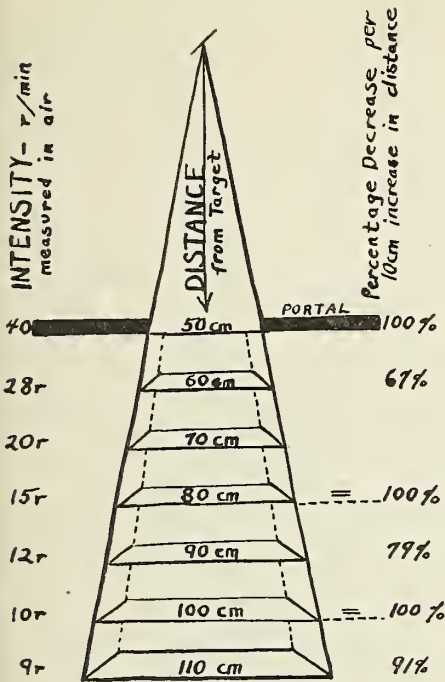


FIG. 1

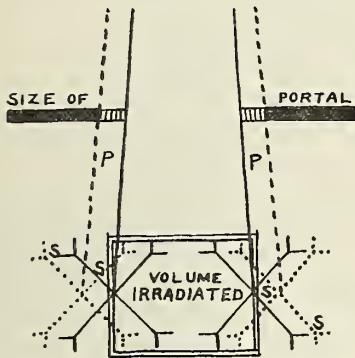


FIG. 2

Figure 1 illustrates the manner in which a longer skin target distance increases the percentage depth dose. These values (measured in air) indicate a considerably higher depth dosage than can actually be obtained in the tissues.

Figure 2 illustrates the importance of employing portals large enough to include some of the tissues surrounding the lesion. The solid lines show how a proportion of the secondary or scattered irradiation (S) is lost along the margins of a lesion while the dotted lines indicate the way in which primary rays (P) striking around the lesion compensate for this loss by scattering a portion of their energy into the tumor area.

3 illustrates the fact that when shorter wave length x-rays are produced at higher voltages, these "harder" rays penetrate to greater depths before they are rapidly scattered in a so called "zone of maximum absorption." The fact that x-rays become more penetrating as their wave length is decreased is a fundamental principal of irradiation physics. Theoretically, it should follow that there must be some one particular

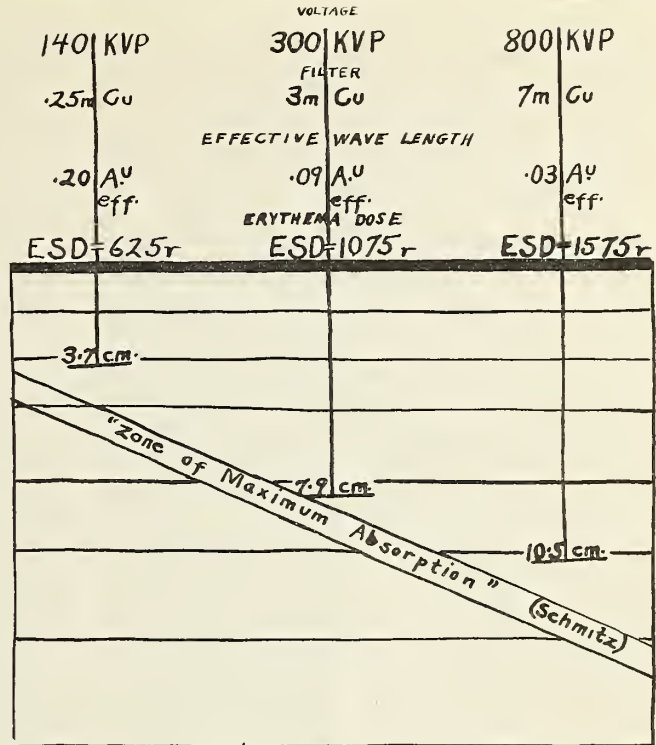


FIG. 3

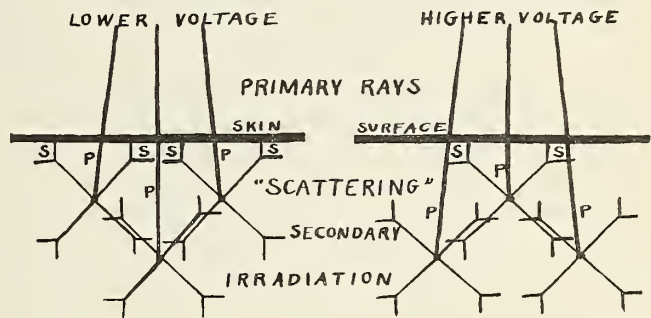


FIG. 4

Figure 3 shows how the erythema dose and the depth to which a majority of the rays penetrate increases as the hardness of the irradiation is increased.

Figure 4 illustrates our present conception of the variations in the scattering process at different voltages. The erythema dose is evidently due to the amount of scattered irradiation (s) which is absorbed in the skin and is relatively independent of the quantity of primary irradiation (p) which passes through the superficial layers.

voltage that is best suited to treatment of lesions at different depths within the body. As a matter of fact, good authority has suggested that eventually we will recognize an optimal wave length of x-rays, and hence an optimal voltage, to employ for treatment at any particular depth. However, in actual practice the filter, as well as the voltage, must be taken into consideration because the x-rays available

for deep therapy are usually not of a uniform quality. In most instances the high voltages that are necessary for the production of x-rays can only be obtained at a reasonable cost by the use of step-up transformers and alternating currents. As a result of the pulsating nature of these currents, the x-rays produced are of varied wave lengths and as a rule only those produced at the highest voltage portion of each cycle are suitable for deep therapy. The softer, less penetrating rays produced at the lower voltage phases of each cycle, are eliminated by passing such a heterogeneous beam of x-rays through a filter of such thickness that only the desirable hard, short wave length rays emerge. In this connection one point that should be kept in mind is that we cannot appreciably improve the percentage depth dose by increasing the amount of filter over and above a certain optimal thickness for any particular voltage. With each increase in voltage one can employ additional filter to advantage, but once a certain optimal filter thickness has been reached, the voltage, as well as the filter, must be increased if a higher depth dose is to be obtained. There should be no controversy as to the relative merits of higher voltages or thicker filters. The filter thickness determines the wave length of the softest rays, the peak voltage determines the wave length of the hardest, and both the voltage and the filter are essential factors in the production of the average or effective wave length of the irradiation. As a matter of fact, the effective wave length is now generally employed as the most convenient and generally acceptable basis upon which the qualities of roentgen rays may be compared.

#### THE IMPORTANCE OF QUANTITY: THE CONCEPTS OF ADEQUATE DOSAGE AND OPTIMAL TIME IN IRRADIATION THERAPY

There is little evidence to suggest that irradiation acts by primarily stimulating a resistance-to-tumor-growth. At the present time most authorities seem to be of the opinion that both x-rays and radium primarily act by a directly destructive action upon the tumor cells. This conception is one of fundamental importance because it has radically changed our ideas as to the quantities of irradiation that must be employed in tumor therapy. When prescribing roentgen treatments at the present time, the radiologist has in mind the effects of a certain quantity of irradiation and he expects his results to roughly parallel the extent to which he

is able to administer that desired quantity or dosage. Numerous studies have contributed to a generally increasing knowledge of tumor therapy, so that today one can predict, with a fair degree of accuracy, the dosage that should be required to destroy or to control a large variety of malignant tumors.

It has long been evident that there is little reason to expect cures of cancer at a depth with less irradiation than has been found necessary for the control of cancer of the skin but complications arise when we attempt to deliver quantities of irradiation into the deeper tissues that are in some measure comparable to the dosages that are employed on the surface. Prior to the development of "super-voltage" x-rays the chief problems in deep therapy arose from the fact that the effects of lower voltage irradiation upon the skin and intermediate structures were so undesirable as to limit treatment to a dosage much less than the tumor itself should have received. As a matter of fact, the tolerance of the skin and normal tissues was usually the one factor which primarily determined the amount of irradiation that could be applied to any "internal" tumor. Employing roentgen rays produced at 300KVP, and delivering larger quantities of irradiation into the body per erythema dose, we have found that the general or systemic effects, particularly the depression of the leukocyte count, very often determines the total dosage that can be given, regardless of the area that is irradiated. In this connection, we know that many radiologists claim they give the same tumor dosage by the use of ordinary voltages, as could be given at higher voltages, except that treatment at the lower voltages requires a little longer time. We have been unable to reconcile this statement with the fact that repeated studies have definitely shown that irradiation dosage cannot be calculated independently of the time factor.

Various techniques of irradiation have been devised in an effort to find means of increasing the amount of x-ray that can be given through the skin and numerous systems of treatment have been reported, all of which can probably be considered as modifications of some one of four techniques that have been more or less original at their onset. It is generally agreed that the so-called "massive dose" was the starting point of measured x-ray dosage. First employed in Germany and coming to general attention soon after the close of the war, this method was the first to be used with the then



new "high voltage" (200KVP) equipment and simply consisted of a much larger dosage of more penetrating irradiation than had been employed up to that time in an effort to destroy the tumor at a single sitting. However, it was soon discovered that a lethal tumor dose could not be given in a single treatment without extensive and irreparable damage to adjacent tissues and this method has been practically abandoned as far as deep therapy is concerned.

Coincident with a general recognition of the danger and futility of the single massive dose came a more widespread employment of Pfahler's<sup>1</sup> "saturation technique." Based somewhat on Kingery's studies, the essential factor in this system was the establishment of a definite rate at which the tissues had been observed to recover from the effects of irradiation. By the employment of this predetermined rate one could at any time estimate the "effective" amount of irradiation still in the tissues. In actual practice the method consists of delivering through each portal one full erythema dose within two or three treatments and then maintaining that total quantity in the tissues by periodic replacement of that portion of the dosage which would otherwise have been lost by tissue recovery. This method has been chiefly criticized on the basis that the total dosage has been too low but more recently Pfahler<sup>2</sup> has reported definitely better results when very much larger "erythema doses" are employed. However, the most revolutionary changes in x-ray treatment have followed general acceptance of the principles credited to Coutard<sup>3</sup> who has shown that an amazingly high total dosage will be tolerated by normal tissues if a number of relatively small daily treatments are given at a low rate of intensity. While there is some question as to the relative importance of the original intensity, filtration and voltage used by Coutard, there is universal acceptance of the fact that the tissues will withstand a much higher total quantity of irradiation if it be given in divided doses by a technique similar to his plan of "protracted" therapy.

As an exact opposite to the old massive dose technique, Houbelein<sup>4</sup> has developed a method of continuous irradiation. Several years ago at the Memorial Hospital, a special room was equipped for the purpose of giving this form of therapy a trial. Arrangements were made whereby four patients could be subjected to

irradiation of the entire body for approximately twenty hours of each day until the desired total dosage had been received. Comparative data is difficult to obtain, for nearly all cases were in an advanced state of generalized carcinomatosis at the time they were accepted for treatment. However, if our present concepts of adequate tumor dosage are anywhere near correct, it would seem that little more than brief palliation could be expected from this method in all but the most radiosensitive types of generalized neoplasms. In concluding a discussion of this problem Chamberlain<sup>5</sup> has recently suggested that some tumors will probably continue to be attacked by single massive doses, some by the methods employing protracted and fractionated dosage, and still others by special techniques yet to be worked out. In any event there is every reason to believe that the ultimate advantages of roentgen therapy cannot be appreciated until we have learned to properly distribute the necessary "adequate tumor dosage" over an optimal period of irradiation time.

#### THE IMPORTANCE OF QUALITY: THE ADVANTAGES OF HIGHER VOLTAGES IN DEEP IRRADIATION THERAPY

Considerable variation in opinion exists among radiologists as to the relative merits of varying qualities of irradiation. Are the so-called soft and non-penetrating, long wave length x-rays that are produced at low voltages more effective in destroying tumor tissues than the hard penetrating short wave length rays obtained from modern high voltage machines? The answer to this question probably depends upon the location of the lesion. There is little reason to believe that some one particular wave length will eventually be found to be the most effective for all types of tumor therapy. Webster<sup>6</sup> has emphasized the theory that the effects of any irradiation upon tissues must fundamentally depend upon a process of ionization within the molecules of the individual cell. The effectiveness of the soft irradiation of unfiltered low voltage roentgen rays in the treatment of skin cancer is evidently due to the fact that the energy is absorbed where it is needed, i.e., throughout the superficial layers of tissue. Obviously there is no need for more penetrating qualities of irradiation as far as the skin is concerned. The treatment of deeper lesions undoubtedly requires harder, more penetrating rays, that will

scatter less rapidly and deliver a greater proportion of their original energy within the volume of deeper lying tissues.

There is abundant evidence of the fact that as the voltage applied to an x-ray tube is increased the resulting x-rays become harder and more penetrating. For example, whereas the rays ordinarily used for medical or dental diagnostic plates will not pass through an eighth of an inch of lead, it requires approximately two inches of lead, or two feet of concrete, to stop the irradiation from modern "super-voltage" apparatus. In considering deep therapy we are most interested in the fact that such exceedingly hard and penetrating irradiation passes through the skin and superficial tissues with only a relatively small proportion of its energy being absorbed until the deeper lying tumor bearing areas have been reached. There is no question but that such irradiation is also more penetrating throughout the deeper areas and to some extent "shoots through" the tumor tissues as well. As our experience with harder irradiation increases, it becomes evident that at higher voltages a larger quantity of the total energy is actually passing through the tumor and is being absorbed in the skin on the opposite side of the body. Landauer<sup>7</sup> and Compton<sup>8</sup> have stressed the importance of avoiding a misconception of this process of "shooting through with roentgen rays." They point out that even the hardest rays do not pass through the tissues without exerting an effect proportional to the amount of irradiation absorbed within each volume of tissue. The existence of a "zone of maximum absorption" has not been generally accepted and it is somewhat difficult to conceive of a quality of irradiation that would be highly penetrating to the skin but rapidly attenuated and absorbed in the underlying tumor bearing areas. On the other hand, the fact that very high voltage x-rays may prove inefficient to the extent that they "shoot through" the tumor will probably come to be regarded as a matter of relatively little importance as far as the purposes of deep therapy are concerned.

We have seen that the first advantage in the use of harder irradiation is a definite but small increase in the percentage depth dose. This gain is too small in itself to justify the expenditure involved in obtaining very high voltage x-rays. Far more significant than figures comparing the percentage depth dose at various voltages is a comparison of the number

of "r" units of irradiation that can be applied to the skin before an erythema is produced by the harder, more penetrating x-rays. However, this is a matter which has also been subject to a great deal of controversy. Several reports have been offered as evidence that under the same conditions, an equal number of "r" units will produce the same degree of erythema, regardless of the wave length of the irradiation employed. Such figures have been obtained in experimental studies where small fields have been irradiated, but when large portals are employed and therapeutic dosages are given, the skin is found to tolerate much larger quantities of the harder irradiation before an erythema is produced. There is nothing mysterious or confusing in this phenomenon. Figure 4 illustrates the probable mechanism by which roentgen rays are scattered and absorbed in the tissues. Most authorities agree that an erythema is produced, not by the quantity of irradiation passing through the superficial tissues but only by the quantity that is actually absorbed within those layers. At higher voltages, as the x-rays become harder, larger quantities of the total energy of the beam penetrate to a greater depth before scattering and final absorption takes place. From the standpoint of deep therapy this means that at higher voltages a greater amount of irradiation energy can be applied to each portal before an erythema is produced.

Many physicists have been hesitant to approve of measuring widely differing qualities of irradiation with the same ionization chambers. However, the recent papers, of Glas-ser<sup>9</sup>, Patterson and Parker<sup>10</sup>, and Mayneord and Roberts<sup>11</sup> indicate that the international "r" unit can be employed with a reasonable degree of accuracy to compare the intensity of various qualities of x-rays as well as the gamma rays of radium. This conclusion increases the significance of many previously reported studies of the effects of varying qualities of irradiation. Failla<sup>12</sup>, Quimby and their co-workers<sup>13</sup>, Mudd, et al<sup>14</sup>, Lauritsen<sup>15</sup>, Leucutia and Corrigan<sup>16</sup>, Mattick<sup>17</sup>, Rhinehard<sup>18</sup>, Schmitz<sup>19</sup>, Smith<sup>20</sup>, Murphy<sup>21</sup>, Merritt<sup>22</sup>, and others have pointed out as the wave length shortens, more and more "r" units must be applied to the skin to produce the same degree of erythema. Lauritsen<sup>15</sup>, in particular, has calculated the amount of irradiant energy that is absorbed per cubic cm of body tissue when x-rays produced at different voltages are applied to the skin. In conclusion he has pointed out that by the



time an erythema has been produced by 800KV x-rays the body as a whole has been irradiated by sixty per cent more energy than when an equal degree of erythema is produced by 200KV x-rays. On the surface we know that the intensity of biological effects are influenced by the wave length of the irradiation and it seems reasonable to assume that a like relationship would exist within the deeper volumes of tissue. However, at the present time it is impossible to predict with any degree of accuracy the relative effects of high and low voltage x-rays at a depth, for we have little idea as to the variations in wave lengths that we may be dealing with.

Another aspect of the problem that must be taken into consideration is the possibility that harder irradiation shows a greater selective action in its effect upon tumor cells. It is generally agreed that the most desirable degree of tissue reaction is one producing the greatest degree of tumor destruction compatible with the continued life and function of adjacent normal structures. In the case of low voltage x-rays, we know that the biological effects are intensive and that more ionization is taking place per cubic cm than when the same volume of tissue is being irradiated by higher voltage, more penetrating x-rays. In both instances the more radio-sensitive tumor cells are the most severely damaged, but it seems reasonable to assume that the greater sensitivity of the tumor cells becomes all the more evident when harder irradiation is employed and the ionization process is not so intense within each unit volume of the tissue.

#### COMMENT

While there continues to be a great deal of discussion as to the relative merits of different voltages, different filters and different methods of applying roentgen rays, there is no question as to the practical value of irradiation therapy. Thousands of cases have been cured and innumerable instances of valuable palliation have been achieved in otherwise hopeless malignancy. The fact that an era of frank experimentation and empiricism has produced encouraging results probably largely accounts for the confidence in radiotherapy that has been displayed by the profession as a whole.

In this country the sum total of our experience with very high voltage x-rays is now large enough that questions concerning the effectiveness of this type of treatment may soon

be settled upon a purely clinical basis. At the present time with respect to primary tumor regression, and particularly in respect to the preservation of normal tissues, the end results of higher voltage deep x-ray therapy show very definite improvements over the results of lower voltage techniques. We would particularly like to call attention to the fact that we do not advocate the use of higher voltage x-rays as an improvement to replace all other types of roentgen therapy. Deeply penetrating x-rays are obviously contraindicated when it is unnecessary to irradiate the deeper structures. It is recognized that the practical limitations of such increases have not been established, but we are convinced that if the results of deep x-ray therapy are to be materially improved we must use the longest skin target distance, the heaviest filtration and the highest voltage that it is economically feasible to employ.

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## PRESIDENT'S PAGE

Members of The Kansas Medical Society:

The September meeting in each county society in the state is of unusual importance. This meeting, following the vacation of July and August, starts the active work of the year. We wish to draw your attention to a number of the activities of the State Society for your consideration, which we request you take up with your society in formulating plans for the year:

First, the legislative program.

Second, the appointment of a liaison committee to work with the Kansas State Board of Health. The duty of this committee is gradually being increased as it dove-tails with all of the activities of the Kansas State Board of Health in maternal and child welfare, tuberculosis work, the work in venereal disease and various public health activities including immunization, high school athletic assistance, ordinances relative to the handling of food, etc.

Third, the problem of the medical care of the indigent is still with us and no doubt will be a serious one this winter. We request that this be studied by a local medical economics committee that will be able to advise with the State Medical Economics Committee in this connection.

Fourth, it is our recommendation that a definite program be outlined for each society for each meeting of the year for real scientific work. Dr. H. L. Chambers, Chairman of the Scientific Work Committee of the State Society, will be glad to offer any suggestions or assistance in this connection if desired. It should not be forgotten that these organizations are primarily for scientific study and other activities are incidental thereto.

Fifth, an organized effort should be made to secure the membership of every eligible physician in each county. The Kansas Medical Society is growing and through the activity of each local organization it can continue.

H. L. Snyder, President.



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## EDITORIAL

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### KANSAS DOCTORS AND KANSAS ATHLETES

Within the next few days, thousands of young Kansas boys and girls will again be enrolled in school and will be starting courses in physical training, engaging in intra-mural sports, or competing for places upon the schools athletic teams. With an appraising glance, one is apt to survey this situation and cast a remark to the effect that it is a fine thing that students now have the privilege of fine gymnasiums, showers, good equipment, prepared teachers, faculty supervision and athletic board control. In retrospect one is prone to be just a little jealous of the present generation and its fine setup as compared to the poor equipment of previous days.

However, if the situation be analyzed just a little more closely, one cannot fail to realize that there is more to the physical education of these students than the physical equipment, which may be purchased by the boards of education, and the physical directors. One must consider the physical development of the individual student, with regard to skeletal and muscular growth, adolescent development and nervous and physical reserve. This analysis can only be made by someone trained in the fields of human physiology and pathology. In some of the larger institutions and school systems, this has been accomplished through the employment of part or full time school physicians. In the smaller systems, the budget will not permit such an expenditure; therefore, the coach or physical director must rely upon that service which he is able to obtain "free gratis". Too frequently this service has been procured from individuals or cultists, desirous of making public contacts, but not capable of rendering the service required.

A few years ago, the physical director of one of the larger state schools instituted routine

physical examinations for all men coming under his supervision. He procured the services of two of the younger practitioners of his community to conduct the examinations. In the course of these examinations much interesting information was obtained. There was one instance of amoebic dysentary, several hernias, occasional tachycardias or arrhythmias, etc. These students were not permitted to enter active physical training until these defects were corrected. That physical director has given his charges an immeasurable service, but that service could never have been rendered had it not been for two interested and willing M.D.'s, giving their time and service for no other remuneration than the personal and public contacts that they were able to make.

Medical men over the state should take into consideration the athletes of the forthcoming year. If possible, coaches and physical directors should be contacted, and the services of physicians should be offered to conduct physical examinations, particularly upon students entering athletic competition. Coaches should be advised that all injuries, intervening infections and ailments should be checked to a physician, family or otherwise before active competition or further practice is permitted. Kansas physicians should take it upon themselves to see that no Kansas athlete enters active competition, suffering from an ailment, either chronic or acute, which might impair that individual's chances to carry on after school days are over.

### THE COUNTY MEDICAL SOCIETIES

After a period of three months of inactivity for most of the county medical societies, it is again time to resume the duties which binds the members of the medical profession more closely together. The county medical society is the important unit of the state and national medical association. It is the unit that holds the whip, and which will have the predomi-

nating influence upon the policies and future welfare of medical practice.

The membership of a county medical society should include every physician residing and practicing in that county, who by his earnestness and fairness in the practice of medicine, has earned the right to be elected to membership by that society. It is the role of present members to cast aside petty and professional jealousies, and encourage eligible non-members to affiliate with their county society. It is the duty of the non-member, so approached, to make every possible effort to become a member of his local county society.

Never in the history of American medicine, individualistic as it has been in the past, and as it must remain in the future, has it been so important for detailed organization. Medicine is meeting face to face, the possibilities of regimentation, lay domination, and cultist invasion. And, at the present time, organized medicine, and particularly the county societies and individual members, is poorly equipped to meet this situation. The Kansas Medical Society needs one hundred and five county medical societies, one hundred per cent eligible membership, and one hundred per cent individual cooperation.

## BECOME ACQUAINTED WITH YOUR LEGISLATOR

The medical profession is the guardian of public as well as personal health within the state. Holding, as we do, our licenses to practice from the state, it is our duty to use our professional knowledge and experience in its interests. How can this be done?

Every year the legislature is in session, numerous bills come up for consideration, which have to do directly or indirectly with the health of the people. In the past much legislation has resulted in that which is not in the best interests of the inhabitants owing to the fact that those intrusted with making

the laws were not fully informed on the subject. This has been perhaps more the fault of a reticent medical profession than of the lawmakers themselves.

To accomplish the best result, the doctor must exercise his prerogative as a citizen and offer freely his specialized knowledge. We have nothing to ask that affects ourselves personally more than it does any other section of the population. A basic science law, for instance, cannot affect the status of the medical or dental professions. They all meet the requirements of any basic science law standard as it obtains in other states. So for them its enactment is immaterial. Its passing, however, would raise the standard of all the various cults who may be consulted by sick persons.

Know your candidates for public office. Meet them personally and keep in constant touch with them. See that they are fully informed regarding the merits or faults of any proposed legislation. All this in the interests of public health and a higher standard of medical care.—Journal of the Michigan State Medical Society, July, 1936.

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## LABORATORY

Edited by J. L. Lattimore, M.D.

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### THE ADRENALIN TEST IN HEMATOLOGY

M. GERUNDO, M.D.

Topeka, Kansas

The routine blood counts and the examination of smears taken from the finger tip are not sufficient in many instances to diagnose an hemopathy. In many cases we must resort to some supplementary tests, which can throw some new light on the already difficult diagnosis of the different blood diseases. The three methods most frequently used for their diagnostic value are: The sternal puncture, the concentration of the blood, and the adrenal test.



In this paper we shall discuss this last test, which is very useful in many hemopathies, but principally in the differential diagnoses of splenomegalies. The test of Benhamou takes advantage of the vasoconstrictor properties of adrenalin, which provokes the issue of cellular elements from the internal organs and chiefly from the spleen, where the cellular elements may be stationed for long periods of time. The adrenalin is injected subcutaneously, in doses of one milligram (1 cc. of a 1:1000 solution) for adults or one-half milligram for children, after being sure that all the contraindications to the use of adrenalin have been eliminated (cardiopathies, etc.)

The original technique of Ed Benhamou, modified by Sabrazes, is as follows:

1. Make a complete blood count and inject the adrenalin subcutaneously.
2. Five minutes after, a white blood count is made.
3. Make complete blood counts twenty, forty, and sixty minutes after the injection of adrenalin.
4. Three or four hours later, another complete count is made.

It is well known that the many leukopenic forms of leukemia make differential diagnosis of hemopathies difficult, as the confusion with an agranulocytosis is probable. In such cases the number of granulocytes is very low and confusion of diagnosis is easy, particularly if necrotic lesions of the pharynx are present. It is highly probable that many of the so-called agranulocytoses are in reality leukopenic leukemias, which have not been thoroughly investigated.

In the leukemias, the adrenalin produces an outpouring of numerous white cells, which many times may even double the previous count. The leukocytosis, in contradistinction to what happens in the normal individual, lasts longer, so that even four hours later the white count is higher. In leukemias the increase in red cells is rather insignificant or absent, which forces one to admit that the splenocontraction is not very pronounced in leukemias, agreeing with the fact that the leukemic spleen is not a reservoir of cells, but is actively proliferating and compact, so that the contraction of the smooth muscles will squeeze out of the splenic parenchyma only a moderate number of elements belonging to the white series. Of course, it must be considered that the action of the

adrenalin influences also the small vessels of the bone marrow and liver.

In cases of true agranulocytosis, there will be a response to the adrenalin, with an increase of the hematic elements, but with a complete absence or small number of granulocytes.

I have many times found the combination of the adrenalin tests with the concentration method useful in the examination of blood. The results of such a combined method are very brilliant, because, in my own experience, all the pathological elements are examined very easily in a single slide.

Where the adrenalin test may certainly render very important service, is in the splenomegalies. The spleno-hematic reaction to the adrenalin is manifested by a triple complex, the reduction of volume of the organ, the hyperglobuly, and the increase in the white cells. In case of infectious or parasitic diseases, with the hyperglobuly, numerous parasites (malaria) or bacteria, which may be cultured (typhoid, streptococcus), are thrown into the peripheral circulation.

According to the adrenalin test, we are able to note three types of splenomegalies:

1. Chronic Splenic Tumors, without or with slight contractility, leukemias, granulomatosis, or sclerosis. In such cases the spleen is formed by a dense cellular or connective tissue and does not contain any demonstrable amount of blood. In such cases the findings in the peripheral blood are scarce or nil, and only occasionally, in cases of leukemias, for example, will there be a number of white cells or immature elements, but the number of red cells will be stationary.

2. Hemolytic Splenomegalies are characterized by a moderate increase in red cells. In such cases the spleen shows a marked congestion, but the cordons are very cellular and in active proliferation and there is insufficiency of the original venous rami, so that the blood progresses with difficulty toward the venous sinuses. To this same group, in which the adrenalin contraction of the spleen is very moderate, may be added the splenomegalies of the chronic infections or the hepatosplenomegalies (secondary or symptomatic splenomegalies).

3. Pylephlebitis or Congestive Spleno-

megalies, with marked contractility. In these forms, the reduction of volume may even reach four or more transverse fingers, due to the extreme squeezing of the pulp under the influx of adrenalin. In such cases, the abundant amount of blood stagnating in the meshes of the pulp is easily thrown into the venous sinuses and into the peripheral circulation. After adrenalin, the red cells may increase by one million or more, according to the degree of congestion of the splenic pulp.

The test is particularly useful in those difficult cases of Splenic Anemia, to differentiate between Banti's syndrome and a pylephlebotic syndrome. The Bantian splenomegalies are made up by a dense connective tissue and the meshes of the pulp contain a very small amount of blood so that the spleen will not contract under the stimulus of adrenalin. In the congestive type, instead, where there is little cellular proliferation and the spleen is more of a reservoir, the contraction will be marked with the results of a net increase in cells.

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## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

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Editor's Note—Dr. W. E. Janes, Secretary of the physicians of Greenwood County has been kind enough to prepare at our request, the following description of an indigent medical care plan recently adopted in that county. Since the plan commenced on January 1, 1936, the tables A and B show comparative expense under the new method and under a former one. The redistribution and saving of expense is interesting and particularly from the standpoint that all persons concerned are said to be better satisfied. An explanation should possibly be made that the substantial saving in public health expense has been effected mainly by a distribution of this work among individual physicians and by the fact that a sizeable immunization program is included in the figures shown for the first half of 1935.

The Greenwood County Commissioners contracted for 1936 with the practicing physicians and surgeons of the county who wished to participate in caring for the indigent sick of the county. The commissioners were desirous of this contract because it guaranteed a twenty per cent reduction in expenditures for

medical service, and as they had previously been unable to reduce hospital and drug expense. By comparison with neighboring counties, it was found that the rate of expense in Greenwood County was too high. This in part, was caused by the fact that Greenwood County is one of the largest in the state (1341 square miles) with a population in 1935 of 17,778 people. While the county is second in size in the state, it is thirty-second in population. This, of course, caused a wide distribution of indigent sick in a fairly sparsely settled county. The principal resources come from grazing lands and oil, both of which have been hard hit in the last few years; and consequently more people are compelled to ask county aid than would be experienced in counties with diversified industries and payrolls.

The county at the present time has thirteen practicing physicians and surgeons, seven of whom are located in Eureka, and six in other towns of the county. Of these, four do not belong to any county or state medical organization. All but two of the physicians and surgeons in the county are participating in the present contract.

This method of caring for the indigent sick allows almost a complete free choice of physician and a much speedier administration of service. It has been found impractical in a county of this size and population for one or two medical men to administer care to the indigent sick.

Under this contract, the participating physicians and surgeons provide and pay for the public health officer, sanitation inspector, emergency dental care, as well as all medical, surgical, hospital, and drug expense appertaining to the indigent sick.

Persons subject to this service include direct relief patients, PWA, WPA, rehabilitation and any others found to be destitute. Some cases are borderline, and it is understood in such instances that the medical men shall collect as they can for partial remuneration. Very little has been collected. The Poor Commissioner supplies each doctor monthly with a list of families eligible for medical care, which list classifies direct relief, WPA, PWA and rehabilitation families with comments in every case regarding the ability after investigation of each family to pay in part for services rendered. This is a suggestion only; as adequate care is given for all.

The county suffered a rather severe epidemic



TABLE A  
Expenditures for first 6 months 1935.

	January	February	March	April	May	June	Totals
Hospitals .....	\$705.65	\$768.82	\$817.61	\$514.16	\$528.52	\$528.75	\$3863.51
Doctors .....	59.95	130.10	202.90	139.30	142.75	158.40	833.40
Nursing of Indigent .....	87.75	98.00	100.25	35.00	116.25	67.00	504.25
Public Health .....	601.43	556.00	543.05	618.30	731.33	545.86	3595.97
Drug Stores .....	303.87	108.84	647.27	303.25	399.51	388.54	2151.28
Drug Companies .....	102.16	89.74	31.92	125.64	135.28	149.58	634.32
Ambulance .....	5.00	.....	24.85	.....	8.00	11.00	48.85
Dentists .....	73.00	37.50	32.00	26.50	32.00	25.50	226.50
	\$1938.81	\$1787.90	\$2399.85	\$1762.15	\$2093.64	\$1874.63	\$11858.08

TABLE B  
Expenditures for first 6 months 1936.

	January	February	March	April	May	June	Totals
Hospitals .....	\$328.80	\$128.40	\$109.35	\$150.65	.....	\$89.15	\$806.35
Doctors .....	514.71	701.62	559.15	739.56	673.58	668.10	3856.72
Nursing of Indigent.....	81.00	100.65	76.50	44.50	70.60	74.00	447.25
Public Health .....	110.00	110.00	110.00	136.70	112.55	110.00	689.25
Drugs .....	246.25	158.20	191.26	145.35	144.53	135.93	1021.52
Ambulance .....	.....	8.00	.....	.....	3.00	.....	11.00
Dental .....	6.00	15.00	54.00	34.00	45.00	42.50	196.50
Laboratory .....	5.00	5.00	7.10	4.50	5.00	.....	26.60
Office Expense .....	32.54	32.75	19.10	21.05	19.70	23.10	148.24
Miscellaneous .....	.....	.....	.....	4.56	5.54	1.50	11.60
	\$1324.30	\$1259.62	\$1126.46	\$1280.87	\$1079.50	\$1144.28	\$7215.03
Balance on hand .....	25.70	90.38	223.54	69.13	270.50	205.72	884.97
	\$1350.00	\$1350.00	\$1350.00	\$1350.00	\$1350.00	\$1350.00	\$8100.00

TABLE C  
Monthly Comparison

	January	February	March	April	May	June
Drug Stores.....	\$246.75	\$158.20	\$191.26	\$145.35	\$126.48	\$123.43
Drugs dispensed						
Eureka.....	75.75	70.14	72.50	88.51	95.63	97.10
Outside.....	32.13	19.30	20.25	28.85	14.65	15.80
	354.63	247.64	284.01	248.46	236.76	236.33
Mileage						
Eureka.....	12.90	23.30	23.90	42.00	38.75	34.55
Outside.....	15.50	13.95	11.50	50.90	12.40	29.55
	28.40	37.25	35.40	92.90	51.15	64.10
Hospitals.....	328.80	128.40	100.60	150.65	.....	89.15
Outside Nursing.....	81.00	100.65	76.50	44.50	70.60	74.00
Health Officer.....	110.00	110.00	110.00	110.00	110.00	110.00
Dental Bills .....	6.00	15.00	54.00	34.00	45.00	42.50
Ambulance.....	.....	8.00	.....	.....	3.00	.....
Laboratory .....	5.00	5.00	15.85	4.50	5.00	.....
Miscellaneous.....	.....	.....	.....	4.56	5.54	1.50
Office Expense.....	32.54	32.75	17.00	21.87	19.70	23.10
Health Office Expense.....	.....	.....	.....	26.70	2.55	.....
Paid to Doctors.....	514.71	701.62	538.15	739.56	673.58	668.10
Office Calls						
Eureka.....	224	320	415	417	343	438
Outside.....	60	44	50	137	76	77
	284	364	465	554	419	515
Residence Calls						
Eureka.....	215	223	188	79	202	171
Outside.....	74	69	59	223	40	47
	289	292	247	302	242	218
Value of Unit						
Eureka.....	.17	.40	.30	.30	.30	.30
Outside.....	.56	.80	.60	.60	.60	.60
Units.....	892	935	962	1160	871	945
Balance on hand.....	\$25.70	\$113.58	\$223.54	\$69.13	\$270.50	\$205.72

of influenza and scarlet fever during the early months of this year, but the death rate for the first half of the present year has been less than during the similar half of 1935.

#### HOW THE PLAN WORKS

Each participating physician renders a statement to the secretary of our organization which statement includes the details of services rendered. It specifies the name of the patient, date of service, diagnosis, prognosis, and treatment, and general remarks. These statements are summarized. A unit system is used altho some services have a constant fixed price. An office call is considered one unit; a residence call is considered two units, and there is a schedule of values for various services rendered. After payment of all bills such as public health officer, mileage, drug bills, hospital bills, dental bills, etc., the value of the unit is determined. This value varies with the number of units per month and the cash balance after payment of bills enumerated. During March, April, May and June the value of the unit was placed at thirty cents by which means all bills were paid, and a substantial reserve accumulated. The value of the unit could have been somewhat higher, but a reserve for emergencies would not have been provided. Therefore the contract affords a remuneration of about thirty per cent normal fees for care of direct relief, WPA, PWA, rehabilitation and such others not classified but needing emergency care. The drug expense has been cut about forty per cent. The plan is effective partly due to the hearty co-operation of our dentists and druggists.

#### ADVANTAGES OF THE PLAN

1. A free choice to indigent of participating physicians.
2. A speedier service to the indigent sick.
3. A distribution of the indigent sick among the participating physicians so that in epidemics or emergencies the combined use of the medical profession of the county is available.
4. Definite reports monthly to the Poor Commissioner and to the County Commissioners summarizing the medical service completed during the month with diagnosis and prognosis.
5. A definite reduction in routine work in the Poor Commissioners offices so that more emphasis may be placed upon ascertaining proper cases for indigent care or for release of cases from indigent roles.

6. The County Commissioners and the Poor Commissioner are relieved of the responsibility and detail of deciding what medical care or surgical procedure is advisable among the indigent, this responsibility being assumed by the participating physicians and surgeons.

7. A twenty per cent reduction in expenditures for indigent care in the county as compared with 1935, or thirty-three per cent reduction as compared with 1934. The taxpayers are better satisfied.

8. A uniformity of satisfaction among the indigent. They like to have their own doctor of choice.

9. A spread of small remuneration to physicians according to services rendered, which service too often has been with no remuneration whatsoever.

10. A definite elevation of morale or regard for the physician.

11. A better spirit of cooperation among physicians and with indigent.

All three County Commissioners and the Poor Commissioner have stated that the plan is working excellently and without complaint. It is to be observed that the indigent enjoy and appreciate the opportunity of calling the doctor of their choice, as other more fortunate neighbors may do.

For your information a summary of expenditures for the first half of this year is appended, and also comparison summary for the similar expenditures in 1935.

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## OFFICIAL PROCEEDINGS

### 78th Annual Meeting

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(Concluded from the August issue)

The Committee on Maternal and Child Welfare desires to submit the following report:

*To The House of Delegates:*

Since this Committee was appointed only recently we have not as yet had time to engage in all of the projects and activities that we believe are possible in the fields of material and child welfare.

Our activities to date have concerned mostly maternal and child welfare portions of the Social Security Act as is indicated in the following minutes of our first meeting:

A meeting of the Maternal and Child Welfare



Committee was held at the Kansan Hotel in Topeka at 12 M. on May 29, 1936. Members present were: Dr. H. L. Snyder, Dr. John L. Grove, Dr. J. H. A. Peck, Dr. Harry Davis, Dr. Charles Jameson, Dr. Roy Russell, Dr. C. E. Coburn, Dr. E. G. Padfield, and Dr. W. F. Bowen. Clarence G. Munns was present as Executive Secretary.

Dr. H. L. Snyder stated that the purpose of this meeting was to introduce the Maternal and Child Welfare Committee into various activities of the Social Security Act. He described the work the Medical Economics Committee has accomplished to date on this subject, and complimented Dr. Earle G. Brown, Secretary of the Kansas State Board of Health for the splendid cooperation he has given in drafting the Kansas plans for this activity. He stressed the fact that Dr. Brown desires for the Society and the county medical societies to participate extensively in the program under the Act.

Dr. John L. Grove presented a written summary of the provisions of the Social Security Act. After extensive discussion, Dr. Roy Russell offered the following motion which was seconded and carried unanimously: That this Committee offer its services and cooperation in the Maternal and Child Welfare functions of the Social Security Act in any way desired by the Kansas State Board of Health, and that it express to the county medical societies its hope that they will likewise offer their fullest assistance and cooperation.

At 2:00 P. M. the meeting was adjourned to the Kansas State Board of Health office for the purpose of a joint conference with representatives of that organization. Additional members present at that meeting were Dr. Earle G. Brown, Dr. L. A. Calkins and Dr. John D. Clark.

Dr. Brown presented a further description of the Maternal and Child Welfare portions of the Social Security Act, and discussed in particular the post-graduate courses which are planned thereunder. He asked the Committee for its recommendations on possible districts in the state for the courses, on possible speakers, and on possible subjects. Dr. Brown's recommendation that the western one-third of the state be offered the first activity in this connection was approved. A motion offered by Dr. Jameson, seconded and carried approved all plans outlined by Dr. Brown for districts, speakers and subjects.

A motion by Dr. John D. Clark, seconded and carried, approved a recommendation to the Society Committee on Public Policy that a birth reporting law patterned after the New Jersey statute be sponsored by the Society in the next term of the legislature.

A motion by Dr. J. H. A. Peck, seconded and carried, approved the institution in Kansas of an official birth report to the State Board of Health. Discussion also followed concerning the advisability of requiring information about congenital deformities on birth certificates, and recommendation was made that procedure in this direction be studied by the Society Committee on Public Policy.

Adjournment followed.

Since that time we have attempted to assist Dr. Earle G. Brown, and the Kansas State Board of Health in all ways possible in this connection and particularly in

the obstetric and pediatric postgraduate programs to be presented in various areas of the state.

It is our belief that most of our activities during the coming year will be closely allied with the Social Security Act and we have hopes that several interesting programs can be made available to the Kansas medical profession thereunder.

Dr. E. C. Duncan, Chairman of the Committee on Revision of Constitution and By-laws, presented the following report:

*To the House of Delegates:*

We herewith submit a revision of the Society Constitution and By-laws as directed.

This was truly a gigantic task. Our committee has had numerous meetings, and our Executive Secretary has given his whole-hearted support.

We do not claim to have a perfect document, but we do believe its adoption without material change will be to the interest of the Society.

There are controversial questions, like for instance, under what circumstances shall a doctor living in one county have his membership in another; when a physician moves from one county to another, and from one state to another, where shall he have his membership. Much discussion and advice has been secured on these and other points from many physicians throughout the state, and the final draft represents our best judgment.

I want to particularly thank Drs. A. W. Feghtly and O. P. Davis for their help. Without these two I am afraid there would have been no revision. I want to also thank Dr. H. L. Chambers, Dr. Earle G. Brown, Dr. G. R. Hastings, Dr. H. L. Snyder and Dr. J. F. Hassig for their splendid assistance.

Dr. W. P. Callahan stated that the delegates of the Sedgwick County Medical Society had carefully considered the proposed revision, and that although they believed it to be as a whole an excellent document, they desired to suggest the following minor changes:

That Section 1, Article VI, which provides that the Council shall consist of one Councilor from each Councilor district, the President, the President-elect, the first Vice-president, the Secretary, the Treasurer, the Chairman of the Defense Board and the Chairman of the Editorial Board, should be changed to read that the Council shall consist of one Councilor from each Councilor district, the President, the President-elect, the Secretary and the Treasurer.

That Section 1, Article XI, which provides for election of the Defense Board by the House of Delegates, should be changed to provide for election of the Defense Board by the Council.

That Section 2, Article XI, which provides that the Defense Board shall elect its own chairman, should be changed to provide for appointment of the Chairman of the Defense Board by the Council.

That Section 1, Article XII, which provides for election of an Editorial Board by the House of Delegates, should be changed to provide for election of the Editorial Board by the Council.

That Section 2, Article XII, which provides for the election of the editor of the Journal and Chairman of the Editorial Board by the House of Delegates, should

be changed to provide for appointment of this official by the Council.

That Section 5 of Chapter IV of the By-laws, which provides that each component society shall elect an alternate for each delegate it selects, should be changed to provide that each delegate shall be authorized to appoint his own alternate in the event he is unable to attend.

That Section 12 of Chapter IV of the By-laws, which provides that the House of Delegates shall fix the amount of the per capita assessment for the succeeding year at each annual session, should be changed to provide that the Council shall establish at each annual session the amount of the per capita assessment for the succeeding year, not to exceed \$10.00 except by a two-thirds majority vote.

That Section 17 of Chapter IV of the By-laws, which provides for the election of delegates to the House of Delegates of the American Medical Association, should be changed to omit the provision wherein one member of the Society is re-elected annually as a delegate. Also, that a provision should be added wherein the incoming president will be elected each year as one of the delegates.

That Section 9 of Chapter X of the By-laws, which provides that the Executive Committee of the Council shall be composed of the President, the President-elect, the Secretary, the Treasurer and the Chairman of the Defense Board, should be changed to omit the Chairman of the Defense Board.

Dr. W. P. Callahan moved that the above recommendations be considered and approved individually by the House of Delegates. Seconded and carried. The recommendations were then voted upon separately, and all were approved.

Dr. O. P. Davis moved that an amendment be made providing that in the event regularly elected delegates or alternates are not present at meetings of the House of Delegates that body may proceed to elect a substitute. Seconded and carried.

Dr. Henry N. Tihen moved that an amendment be made in the By-laws affixing the annual dues of the Society permanently at \$10.00 per year until such time as a change is desired by the House of Delegates. Seconded and carried.

Dr. A. W. Fegtly moved that the Executive Secretary be empowered to make any minor correction in wording and punctuation that are found necessary in the final drafting of the Constitution and By-laws. Seconded and carried.

Dr. E. C. Duncan moved that the proposed Constitution and By-laws be adopted as amended, and that the following resolution of adoption be incorporated in the official minutes:

Be it hereby resolved that this revised constitution and by-laws shall be in full force and effect at the close of the meeting of its adoption, and that it shall supersede all prior constitutions, by-laws, and amendments of this

Society.

Likewise, that the officers, councilors, board members and committee members who are holding offices for definite terms under the Constitution and By-laws immediately preceding shall serve until the expiration of the term for which they were elected, and until their successors under this revised Constitution and By-laws have been duly elected, qualified and installed.

Adopted this 11th day of May, 1936, at a meeting of the House of Delegates of The Kansas Medical Society in Kansas City, Kansas.

Seconded and carried.

The next order of business was the annual election of officers. Thereupon Dr. J. F. Gsell was elected as President for a term of one year commencing at the close of the 1937 annual session; Dr. N. E. Melencamp was elected as first Vice-president and Dr. George W. Davis as second Vice-president for terms of one year each commencing at the close of the 1936 annual session; and Dr. George M. Gray was re-elected as Treasurer for a term of one year commencing at the close of the 1936 annual session. No election was necessary for the office of Secretary inasmuch as the present term of Dr. H. L. Chambers does not expire until the annual session of 1938.

The following councilors were elected by caucus of their individual districts for terms of three years each: Dr. F. R. Croson of Clay Center, Dr. L. S. Nelson of Salina, Dr. R. T. Nichols of Hiawatha and Dr. L. F. Barney of Kansas City.

The personnel of the Council for the year May, 1936 to May, 1937 was therefore reported as follows:

First District—R. T. Nichols, M.D., Hiawatha, term expires 1939.

Second District—L. F. Barney, M.D., Kansas City, term expires 1939.

Third District—E. C. Duncan, M.D., Fredonia, term expires 1937.

Fourth District—J. L. Lattimore, M.D., Topeka, term expires 1938.

Fifth District—Marion Trueheart, M.D., Sterling, term expires 1938.

Sixth District—Henry N. Tihen, M.D., Wichita, term expires 1937.

Seventh District—F. R. Croson, M.D., Clay Center, term expires 1939.

Eighth District—L. S. Nelson, M.D., Salina, term expires 1939.

Ninth District—Walter Stephenson, M.D., Norton, term expires 1938.

Tenth District—C. D. Blake, M.D., Hays, term expires 1937.

Eleventh District—A. C. Armitage, M.D., Kinsley, term expires 1938.

Twelfth District—N. E. Melencamp, M.D., Dodge City, term expires 1937.

Adjournment followed.



# COUNCIL MEETING

A meeting of the Council was held at 5:00 p. m. on May 11, 1936, at the Chamber of Commerce Building, Kansas City, Kansas. Councilors and officers present were as follows: H. L. Snyder, M.D., Winfield; Geo. M. Gray, M.D., Kansas City; H. L. Chambers, M.D., Lawrence; F. R. Croson, M.D., Clay Center; L. S. Nelson, M.D., Salina; Marion Trueheart, M.D., Sterling; N. E. Melencamp, M.D., Dodge City; A. C. Armitage, M.D., Kinsley; Henry N. Tihen, M.D., Wichita; E. C. Duncan, M.D., Fredonia; C. D. Blake, M.D., Hays. Clarence G. Munns, Executive Secretary, was excused by reason of an illness in his family.

The first order of business was an election to fill two expired terms on the Defense Board. Dr. O. P. Davis was elected for a term of two years, and Dr. L. S. Nelson was elected for a term of three years, as provided in the new Constitution and By-Laws. The standing of the Defense Board for the year from May, 1936 to May, 1937 was then announced as follows:

O. P. Davis, M.D.—Term Expires 1938	
L. S. Nelson, M.D.—Term Expires 1939	
C. C. Stillman, M.D.—Term Expires	1937

Instruction was given that the Defense Board should elect its own chairman, as is also provided in the new Constitution and By-Laws.

The next order of business was the election of the Editorial Board, wherein Dr. W. M. Mills and Dr. L. R. Pyle were elected for terms of three years each, and Dr. R. B. Stewart and Dr. F. C. Taggart were elected for terms of two years each. Dr. Geo. M. Gray moved that Dr. H. L. Snyder consult with the Editorial Board for appointment of the other member of this Board, who shall serve for a term of one year. Seconded and carried. Dr. H. N. Tihen moved that Dr. W. M. Mills be elected as chairman of the Editorial Board and Editor of The Journal of The Kansas Medical Society. Seconded and carried.

Dr. N. E. Melencamp moved that a suggestion of the Shawnee County Medical Society to hold the 1937 annual session in Topeka be accepted. Seconded and carried.

Dr. H. N. Tihen, chairman of the Executive

Secretary Committee, presented the following report:

That although this Committee has been officially disbanded, it met recently for the purpose of preparing a recommendation of an increase in the salary for the Executive Secretary, and since it feels his work has been sufficiently commendable to occasion an expression of appreciation on the part of the Society, it therefore recommends his salary should be increased \$50.00 per month.

Dr. E. C. Duncan moved that an increase in this amount be approved effective May 1, 1936. Seconded and carried. Dr. E. C. Duncan moved that the Executive Secretary also be authorized to include in his expense account any expenses for entertainment or other incidentals that are incurred in connection with his work. Seconded and carried.

Discussion followed concerning the salaries of assistants in the central office, and Dr. F. R. Croson moved that any increases of this kind should be discussed and approved by Dr. H. L. Snyder and Dr. Geo. M. Gray. Seconded and carried.

Dr. N. E. Melencamp moved that a suggestion should be made to the Leavenworth County Medical Society that it discuss the resolution presented by that group with the Kansas Board of Administration, and in the event it was unsuccessful in accomplishing the objectives sought, that it refer the matter to the Council. Seconded and carried.

Dr. Geo. M. Gray moved that the Committee on Public Policy be authorized to proceed with its contemplated plans for a Society legislative program in the 1937 session of the legislature, and that in the event a basic science law is to be introduced, the measure should be as complete and effective as possible. Seconded and carried.

Upon motion by Dr. L. S. Nelson, seconded and carried, official county medical society charters were approved for Wabaunsee and Pottawatomie Counties.

Dr. Croson moved that the amount of bonds for employees in the central office should be left to the discretion of Dr. Geo. M. Gray. Seconded and carried.

Instructions were given that unpaid members should be dropped from the official Society mailing list effective June 1, 1936.

Dr. Marion Trueheart presented information

concerning difficulties being experienced by one of the component societies in his district. Dr. H. N. Tihen moved that Dr. Trueheart be requested to hold a special meeting with this group in an effort to secure an amicable agreement and understanding. Seconded and carried.

Dr. H. N. Tihen moved that the dates of the 1937 annual session be established as May 3, 4, 5 and 6, and that the program and general arrangements be left to the discretion of Shawnee County Medical Society. Seconded and carried.

Adjournment followed.

—JKMS—

# MODERN TREND IN DEEP X-RAY THERAPY WITH PARTICULAR REFERENCE TO HIGHER VOLTAGES

(Continued from Page 363)

13. Duffy, James J., McNattin, Robt. F., Copeland, Murray M., and Quimby, Edith H., The Relative Effects Produced by 200 KV Roentgen Rays, 700 KV Roentgen Rays and Gamma Rays: Comparison Based on the Production of Erythema in Human Skin. *Am. J. Roentgen. & Rad. Therapy.* 1933, 29, 343.

14. Mudd, Seeley G., Emery, Clyde K., Meland, Orville M., and Costolow, Wm. E. Data Concerning three years Experience With 600 KV (peak) Roentgen Therapy. *Am. J. Roentgenol. & Rad. Therapy* 1934, 31, 520.

15. Lauritsen, Charles C., Energy Considerations in High Voltage Therapy. *Am. J. Roentgenol. & Rad. Therapy,* 1933, 30, 380.

(b) Lauritsen, Charles C., Energy Considerations In Medium and High Voltage Therapy. *Am. J. Roentgenol. & Rad. Therapy,* 1933, 30, 529.

(c) Lauritsen, Charles C., On the Relation Between the Roentgen and the Erythema Dose. *Am. J. Roentgenol. & Rad. Therapy.* Feb. 1935, 33, 235.

16. Leucutia, T., and Corrigan, K.E., The Present Status of Roentgen Therapy with Voltages Above 200 KV. *Am. J. Roent. & Rad. Therapy,* 1934, 31, 628.

17. Mattick, W. L. Our Changing Concepts Regarding The Skin Dose. *Am. J. Roentgenol. & Rad. Therapy.* 1935, 34, 491.

18. Reinhard, M. C. & Goltz, H. L. The Cumulative Dose with Multiple Fields. *Radiology,* 1934, 23, 285.

19. Schmitz, Henry.

(a) Symposium on the Relative Effects Produced by 200 KV Roentgen Rays, 700 KV Roentgen Rays and Gamma Rays: Discussion of Clinical Problems. *Am. J. Roentgenol. & Rad. Therapy,* 1933, 31, 364.

(b) Observations on The use of 800,000 KV Roentgen Rays in Radiation Therapy. *Radiology,* 1935, 25, 341.

20. Smith, R. L.

(a) Six Hundred Kilovolt Radiation, *Neb. Med. Journ.* 1934, 19, 94.

(b) The High Voltage Treatment of Cancer, *Neb. Med. Journ.* April 1935, 20, 121.

(c) Extremely Short Wave Radiation. Unpublished Paper read before the Texas Radiological Society, May 13, 1935.

21. Murphy, John T. Preliminary Report on 300 KV Treatment Machine. *Am. J. Roentgenol. & Rad. Therapy,* 1935, 34, 653.

22. Meritt, E. A., and Rathbone, R. R. The Roentgen Treatment of Malignancy Using Filtration Equivalent to 5 mm of Copper. *Am. J. Roentgenol. & Rad. Therapy.* 1936, 35, 334.

## NEWS NOTES

### INTERNATIONAL COMPENSATION MEETING

G. Clay Baker, chairman, Commission of Labor and Industry, and also president, International Association of Industrial Accident Boards and Commissions, has recently announced the following medical program which will be presented at the convention of the latter group to be held at the Jayhawk Hotel, Topeka, September 21-24:

Tuesday, September 22, 9:00 a. m.

Injection Method Treatment of Hernia, by Dr. Andrew J. Weber; Tuberculosis and its Relation to Trauma, by Dr. Jacob A. Goldberg; Measurement of Disabilities under Schedules of Various Acts, by D. D. Garcelon.

2:00 p. m.

Rating Eye Disabilities, by a representative of the American Medical Association.

Wednesday, September 23:

9:45 a. m.

Address, Hon. G. Clay Baker, President, Topeka. Chairman, Dr. J. F. Gsell, Wichita.

10:00 a. m.

"Pre-occupational Examinations", Dr. J. A. Britton, Chicago, Ill.

Introduced by, Dr. E. C. Duncan, Fredonia.

Discussion opened by, Dr. W. A. Phares, Wichita.

11:00 a. m.

"Prompt Reporting and Co-operation with Commissions", Hon. Voyta Wrabetz, Madison, Wis.

Introduced by, Dr. Forrest L. Loveland, Topeka. Discussion opened by Dr. Lawrence Growney, Kansas City.

Chairman, Dr. W. F. Bowen, Topeka.

2:00 p. m.

"Low Back Pain", Dr. Philip H. Kreuscher, Chicago, Ill.

Introduced by, Dr. M. J. Owens, Kansas City, Mo.

Discussion opened by, Dr. W. H. Hines, Kansas City, Mo.

3:00 p. m.

"Knee Joint Derangements", Dr. Arthur E. Bence, Wichita.

Introduced by, Dr. L. D. Johnson, Chanute.

Discussion opened by, Dr. Rex L. Diveley, Kansas City, Mo.

Chairman, Dr. H. L. Snyder, Winfield.

4:00 p. m.

"A Practical Discussion of the Silicosis Problem," Dr. Oscar A. Sander, Milwaukee, Wis.

Introduced by, Dr. L. F. Barney, Kansas City.

Discussion opened by Dr. Earle G. Brown, Topeka.

5:00 p. m.

"Surgical Treatment of Peripheral Nerve Injuries", Dr. A. W. Adson, Rochester, Minn.

Introduced by Dr. C. C. Nesselrode, Kansas City. Discussion opened by Dr. Frank R. Teachenor, Kansas City, Mo.

Since this is the first time in the twenty-three years of the convention proceedings of this organization that a special program has been provided for the medical



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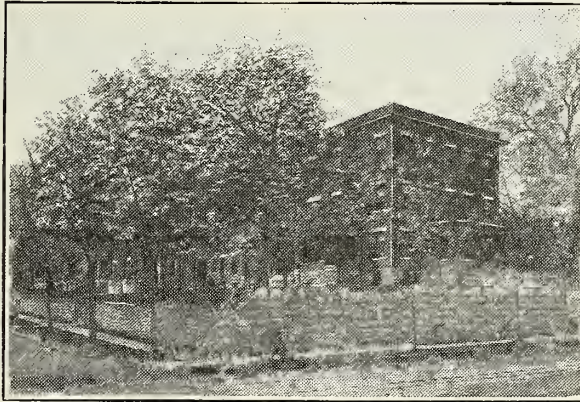
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Neurologist and Addictologist

**HERMAN S. MAJOR, M.D.**  
Neuro-Psychiatrist

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profession, Mr. Baker is particularly hopeful that the meeting will be well attended by Kansas physicians.

### BASIC SCIENCE BROCHURE

The Committee on Public Policy is at present preparing a brochure on basic science laws which it hopes to have available for lay distribution within the near future.

Present plans provide that the pamphlet will include a description of the basic sciences, basic science laws, invalid objections that are made against these laws, and the need of legislation of this kind in Kansas.

### WPA TRAUMATIC INJURIES

The central office has received the following communication from Mr. J. J. Poizner, State Compensation Officer of the Kansas WPA:

"I wish to express on behalf of the Kansas WPA and Mr. Evan Griffith, State Administrator, our sincere appreciation for the wholehearted cooperation the Kansas medical profession has given our traumatic injury program which has recently completed its first year of operation. The free choice of physician plan included therein has proven to be satisfactory from every standpoint and we wish to commend the foresight of the officials of The Kansas Medical Society for their suggestion in this regard. We have also greatly appreciated the efficient service your members have rendered to our employees and their fairness and interest in our problems in this connection. Both the United States Employees Compensation Commission and ourselves have regretted the delays that have frequently been necessary in the payment of physicians accounts and we hope that all of your members realize that this has been unavoidable through the vast amount of additional work that the Commission has experienced.

"We believe you might be interested in the following statistics which relate to injury cases during the past year:

For the fiscal year ending June 30, 1936, there was a total of 2533 traumatic injury cases in Kansas which required medical attention and it is estimated that vouchers for medical and hospital care for these patients amounted to \$40,000.00.

"There is only one suggestion we could make for the further handling of this program during the coming year: The Commission frequently advises us that physicians have inadvertently forwarded voucher form S69 directly to that office. This procedure occasions a delay inasmuch as the form must be returned for handling through regular channels and we would thus appreciate it very much if all physicians would make certain that these forms are returned directly to the person issuing the authorization or to the WPA office in that district.

Assuring you of our desire to cooperate with your good organization in any way possible."

### NATIONAL HEALTH SERVICE

Information has been received that a concern calling itself the National Health Service of Wichita, and promoted by Mr. Leroy G. Mason and Mr. Clark G. Dumond, is planning to institute a pre-payment health service in various parts of the state. Also, that representatives of this company are at present calling upon various county medical societies and members in an effort to secure their interest in the undertaking.

Although a full description of this concern's plan of operation has not as yet been obtained, several plans believed to be similar in scope have recently been stopped by the Attorney General and the State Department of Insurance, through reason that they violated the Kansas Insurance Code.

Representatives of the Society are at present investigating the above company and a request is made that all county medical societies and members refer representatives of the concern to the central office.

### KANSAS CITY SOUTHWEST CLINICAL SOCIETY MEETING

Guest speakers at the Fourteenth Annual Fall Conference of the Kansas City Southwest Clinical Society to be held at the Municipal Auditorium in Kansas City, Missouri, on October 5, 6, 7, 8, are as follows: Dr. George E. Bennett, Baltimore, Md.; Dr. Milton A. Bridges, New York City; Dr. Joseph A. Capps, Chicago, Ill.; Dr. George Crile, Cleveland, Ohio; Dr. Morris Fishbein, Chicago, Ill.; Dr. A. C. Furstenberg, Ann Arbor, Mich.; Dr. Urban Maes, New Orleans, La.; Dr. J. A. Myers, Minneapolis, Minn.; Dr. Jean Paul Pratt, Detroit, Mich.; Dr. B. Weems Turner, Houston, Texas; Dr. Derrick T. Vail, Cincinnati, Ohio.

The following members of The Kansas Medical Society will also appear on the program: Dr. Thomas G. Orr, Dr. Lewis W. Angle, Dr. Fred Angle, Dr. O. W. Davidson, Dr. C. C. Nesselrode, Dr. Ralph H. Major, Dr. P. M. Krall, and Dr. T. G. Dillon.

The usual events of this meeting, including Round Table Luncheons, a public meeting, the regular fall meeting of the Kansas City Society of Ophthalmology and Otolaryngology, scientific and commercial exhibits, and social entertainment, have also been arranged.

Further details may be obtained from the August issue of the Bulletin of the Kansas City Southwest Clinical Society.

### PRIMARY RESULTS

Returns from the recent primary election indicate that the following Kansas physicians were successful in candidacies for state representative and state senator: Dr. J. B. Carter, Wilson, senator; Dr. T. C. Kimble, Miltonvale, representative; Dr. Alfred O'Donnell, Ellsworth, representative; Dr. R. L. Von Treba, Chetopa, representative.

### OKLAHOMA CITY CLINICAL SOCIETY

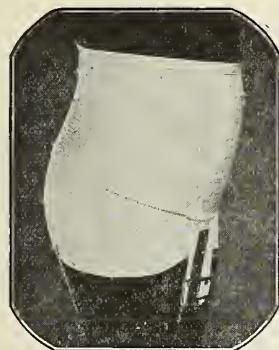
The Seventh Annual Fall Conference of the Oklahoma City Clinical Society will be held in Oklahoma City, Oklahoma, on October 26, 27, 28, 29.

The guest speakers present will be: Dr. Charles



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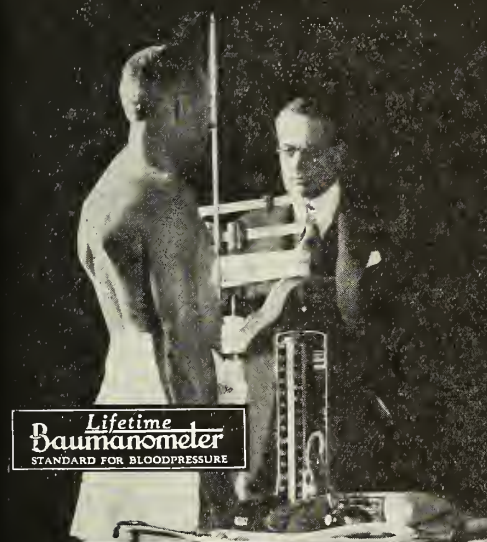
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★ *Proc. Soc. Exp. Biol. and Med.*, 1934, 32, 241-245

*Laryngoscope*, 1935, XLV, 149-154

*N. Y. State Jour. Med.*, 1935, 35, No. 11, 590

*Arch. Otolaryngology*, Mar. 1936, Vol. 23, No. 3, 306-309

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1934, 32, 241-245.

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The meeting will consist of general assemblies, round table luncheons, evening symposias, post-graduate courses, and commercial and scientific exhibits.

Further information may be secured from the Secretary, 714 Medical Arts Building, Oklahoma City, Oklahoma.

### SEDGWICK COUNTY EXHIBIT

The Sedgwick County Medical Society has announced that it will sponsor an exhibit portraying the advancement of medical science at the Kansas Diamond Jubilee Exposition to be held in Wichita, October 7-17. Since several hundred thousand people are expected to attend, the above activity should prove to be of exceptional interest.

### POSTGRADUATE COURSES

The second series of obstetric and pediatric post-graduate lectures, sponsored by the Kansas State Board of Health in conjunction with the Society Committee on Maternal and Child Welfare and financed through Social Security Act funds, was completed on August 21.

This particular course was held for the area comprising north central Kansas and included Dr. L. A. Calkins, professor of obstetrics at the University of Kansas School of Medicine, and Dr. Lucius Eckles, a pediatrician of Topeka, as speakers. Current reports indicate that attendance was excellent and that all members were greatly interested in the course.

Final registration figures for a similar course presented in central Kansas during June and July by Dr. Frank C. Neff and Dr. E. D. Plass, show that 108 of 199 physicians in that area registered and attended.

It is hoped that the success attained in these two courses will permit similar activities to be offered in other parts of the state within the near future.

### INTERNATIONAL MEDICAL ASSEMBLY

The twenty-first International Assembly of the Interstate Post-graduate Medical Association of North America, under the presidency of Dr. David Riesman of Philadelphia, Pennsylvania, will be held in the public auditorium of St. Paul, Minnesota, October 12, 13, 14, 15 and 16 with pre-assembly clinics on Saturday, October 10 and post-assembly clinics Sunday, October 17 in the hospitals of St. Paul.

The aim of the program committee with Dr. George Crile, as chairman, is to provide for the medical profession of North America an intensive postgraduate course covering the various branches of medical science. The program has been carefully arranged to meet the demands of the general practitioner, as well as the specialist. Extreme care has been given in the selections of the contributors and the subjects of their contributions.

In cooperation with the Minnesota State Medical Association, the Ramsey County Medical Society will be host to the Assembly and has arranged an excellent list of committees who will function throughout the Assembly.

A most hearty invitation is extended to all members of the profession who are in good standing in their State or Provincial Societies to be present and enjoy the hospitality of the medical profession of St. Paul. A registration fee of \$5.00 will admit each member of the medical profession in good standing to all the scientific and clinical sessions.

Special railroad rates will be in effect.

A list of the distinguished speakers who will appear on the program is as follows: Dr. Irvin Abell, Louisville, Ky.; Dr. Alfred W. Adson, Rochester, Minn.; Dr. W. Wayne Babcock, Philadelphia, Pa.; Dr. Donald C. Balfour, Rochester, Minn.; Dr. Claude S. Beck, Cleveland, Ohio; Dr. Earl Bond, Philadelphia, Pa.; Dr. Frederick A. Collier, Ann Arbor; Dr. Hugh Cabot, Rochester, Minn.; Dr. Robert A. Cooke, New York, N. Y.; Dr. George W. Crile, Cleveland, Ohio; Dr. Bronson Crothers, Boston, Mass.; Dr. Elliott C. Cutler, Boston, Mass.; Dr. Irving S. Cutter, Chicago, Ill.; Dr. Walter E. Dandy, Baltimore, Md.; Dr. Walter T. Dannreuther, New York, N. Y.; Dr. Vernon C. David, Chicago, Ill.; Dr. Loyal Davis, Chicago, Ill.; Dr. Robert S. Dinsmore, Cleveland, Ohio; Dr. George Draper, New York, N. Y.; Dr. Wells P. Eagleton, Newark, N. J.; Dr. Carry Eggleston, New York, N. Y.; Dr. Eldridge L. Eliason, Philadelphia, Pa.; Dr. Charles A. Elliott, Chicago, Ill.; Dr. John F. Erdmann, New York, N. Y.; Dr. Matthew S. Eersner, Philadelphia, Pa.; Dr. Reginald Fitz, Boston, Mass.; Dr. A. Almon Fletcher, Toronto, Canada; Dr. John R. Fraser, Montreal, Canada; Dr. John F. Fulton, New Haven, Conn.; Dr. Francis C. Grant, Philadelphia, Pa.; Dr. Fraser B. Gurd, Montreal, Canada; Dr. Russell L. Haden, Cleveland, Ohio; Dr. Charles G. Heyd, New York, N. Y.; Dr. Andrew C. Ivy, Chicago, Ill.; Dr. Chevalier Jackson, Philadelphia, Pa.; Dr. Elliott P. Joslin, Boston, Mass.; Dr. Frederick J. Kalteyer, Philadelphia, Pa.; Dr. Frank H. Lahay, Boston, Mass.; Dr. Joseph W. Larimore, St. Louis, Mo.; Dr. Samuel Z. Levine, New York, N. Y.; Dr. Dean Lewis, Baltimore Md.; Dr. Jennings C. Litzenberg, Minneapolis, Minn.; Dr. Warfield T. Longcope, Baltimore, Md.; Dr. William E. Lower, Cleveland, Ohio; Dr. John S. Lundy, Rochester, Minn.; Dr. Joseph F. McCarthy, New York, N. Y.; Dr. Charles H. Mayo, Rochester, Minn.; Dr. William J. Mayo, Rochester, Minn.; Dr. James H. Means, Boston, Mass.; Dr. John J. Moorhead, New York, N. Y.; Dr. Herman O. Mosenthal, New York, N. Y.; Dr. Louis H. Newburgh, Ann Arbor, Mich.; Dr. Emil Novak, Baltimore, Md.; Dr. John A. Oille, Toronto, Canada; Dr. Eric Oldberg, Chicago, Ill.; Dr. George E. Pfahler, Philadelphia, Pa.; Dr. Maurice C. Pincoffs, Baltimore, Md.; Dr. Lawrence Post, St. Louis, Mo.; Dr. Fred Rankin, Lexington, Ky.; Dr. Robert F. Ridpath, Philadelphia, Pa.; Dr. David Riesman, Philadelphia, Pa.; Dr. Leonard G. Rowntree, Philadelphia,



# VITAMINS IN CANNED FOODS

## III. VITAMIN A

• The most characteristic evidence of severe human vitamin A deficiency, and one which is increasingly rare in this country, is xerophthalmia. Night-blindness, one of the manifestations that usually precedes xerophthalmia, has been recognized as a deficiency disease since the time of Hippocrates who described the disease, and its cure by eating liver. Infrequent reports of this disorder, however, still appear in the American literature. Most if not all of the symptoms accompanying a deficiency of vitamin A are thought to be the result of an impairment of the epithelial tissue (1). In this connection, a new method for the quantitative determination of this vitamin is based on the keratinization of germinal epithelia (2).

That vitamin A exerts an influence on the growth of human infants and children is also generally accepted.

As early as 1919, a relationship between vitamin A in plant foods and plant pigments was postulated. Research since that date has indicated that beta-carotene and some related compounds may be considered as provitamin A (3).

The vitamin A potency of fruits and vegetables is apparently due to their carotene

content, since vitamin A as such has never been found in plant tissue. Ingested carotene is believed to be converted into vitamin A by enzyme action in the liver of the animal (4), in which organ the vitamin is stored.

Vitamin A in the form of carotene may be present in yellow, green or red pigmented fruits and vegetables—in the two latter cases, the yellow color of carotene being masked by other pigments present. Color alone, therefore, is not always a reliable index of potential vitamin A potency.

Both vitamin A and carotene are relatively stable to heat but are subject to destruction by oxidation. However, foods of both animal and plant origin, when canned by modern methods, have been found to retain their vitamin A potencies in high degree (5).

In fact, in some instances, practically no loss of vitamin A potency can be detected by formal bio-assays (6).

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(1) 1927. J. Exp. Med., 46, 699  
(2) 1935. J. Nutrition, 9, 735  
(3) 1929. Biochem. J., 23, 803

(4) 1931. J. Biol. Chem., 94, 185  
(5) a. 1933. J. Am. Diet. Assoc., 9, 295  
b. 1931. J. Nutrition, 4, 267

c. 1935. Am. J. Pub. Health, 25, 1340  
(6) a. 1925. Ind. Eng. Chem., 17, 69  
b. 1926. Ind. Eng. Chem., 18, 85

*This is the sixteenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.*



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#### Foreign acceptances to date:

Dr. Robert D. Lawrence, F.R.C.P., London, England; Mr. Archibald H. McIndoe, F.R.C.S., London, England; Mr. C. Naunton Morgan, F.R.C.S., London, England; Dr. Francis J. Charteris, Prof. of Materia Medica, St. Andrews University, St. Andrews, Scotland.

Further information may be obtained from Dr. W. B. Peck, Managing Director, Freeport, Illinois

### ROTARY PROGRAM

The Kansas City Kansas Rotary Club dedicated its meeting on August 11 to the medical profession and the following physicians and subjects were presented: Dr. H. R. Wahl, "Medical Education"; Dr. J. F. Hassig, "Medical Ethics"; Dr. C. C. Nesselrode, "Medical Organizations and Their Functions"; Dr. T. J. Sims, "Our Medical Law"; Dr. W. J. Feehan, "Basic Science Law"; and Dr. C. J. Mullen, "Socialized Medicine".

Each of the talks was five minutes in length, Dr. C. Omer West, president of the club presided and introduced the speakers, and a large amount of interest was evidenced.

### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending August 22	Month ending July 25
Scarlet Fever .....	164	269
Gonorrhea .....	72	119
Syphilis .....	66	111
Pneumonia .....	55	235
Tuberculosis .....	55	192
Mumps .....	45	59
Whooping Cough .....	37	114
Typhoid Fever .....	31	18
Diphtheria .....	22	24
Measles .....	9	35
Vincent's Angina .....	9	7
Undulant Fever .....	7	17
Erysipelas .....	5	17
Septic Sore Throat .....	5	5
Encephalitis .....	5	2
Chickenpox .....	4	43
German Measles .....	4	11
Meningitis .....	4	3
Cancer .....	3	14
Polioymelitis .....	2	5
Smallpox .....	1	18
Influenza .....	1	16

### COUNTY SOCIETIES

The Central Kansas and Cloud County Medical Societies held dinner-meetings on July 28 and July 31 at Ellsworth and Concordia, respectively. Both meetings preceded Social Security Act postgraduate programs held on these dates at those towns.

Dr. Philip W. Morgan, Emporia, spoke on "Electrocardiography and Bradycardia" at a meeting of the Douglas County Medical Society held in Lawrence on August 13. The talk was followed by a discussion by Dr. F. L. Loveland, Topeka.

Members of the Saline County Medical Society and the Salina Dental Society held a joint meeting on July 30 at Dr. W. E. Mowery's cabin north of Salina. The proposed Basic Science Law was discussed and decision was made to inform all representatives and senators as to the stand of the two professions on the proposed law.

The Wyandotte County Medical Society held a meeting on September 1 in Kansas City with the following speakers and subjects: Dr. H. R. Wahl, "Pathological Conference"; Dr. H. W. King, "Malignancy of the Colon"; Dr. H. L. Regier, "Emergency Care Following Accidents."

### MEMBERS

Dr. Lynn Beal, Fredonia, has been appointed county health officer for Wilson County to succeed Dr. W. H. Young who died recently.

Dr. R. R. Nykamp, formerly of Michigan, has located in Peabody where he will be associated with Dr. E. H. Johnson. He received his medical training from Rush Medical College and served his internship at the Swedish Covenant Hospital in Chicago.

The Kansas Motor Club recently conferred a title of "safest automobile driver in Kansas" upon Dr. L. M. Tomlinson, Harveyville, by reason of his record of having driven more than 250,000 miles in twenty-two years without an accident or traffic violation. Through this distinction Dr. Tomlinson was guest of honor at the Kansas Safety Day held in Topeka on August 14, and he also represented Kansas in the first National Safe Drivers' motorcade to New York City, sponsored by the American Automobile Association, during the week of August 31.

Dr. C. H. Warfield, who for the past eight years has been Director of the Department of Roentgenology, Cook County Hospital, Chicago, Illinois, opened an office in Wichita, on September 1, 1936, for the practice of roentgenology. While at Cook County Hospital, Dr. Warfield was an assistant professor of medicine at Loyola University Medical School, and Chairman of the Department of Roentgenology, Cook County Graduate School of Medicine. Dr. Warfield graduated from Northwestern University Medical School in 1925. He interned at Wesley Memorial Hospital in Chicago and from 1926 to 1928 was resident roentgenologist, University of Michigan Hospital. He is a fellow of the American Medical Association and a diplomate of the American Board of Radiology. Dr. Warfield has written several articles upon original radiological research, one of which was read at The Kansas Medical Society meeting, 1935, and published in the



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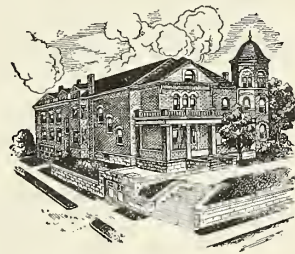
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March 1936 issue of The Journal of The Kansas Medical Society. Dr. Warfield should make a welcome addition to Sedgwick County and Kansas medical societies.

### DEATH NOTICES

Dr. William Moorman Boone, 76 years of age, died at his home in Highland on August 6. He was born in Meade County, Kentucky, in 1869 and had lived during his youth at Dallas, Texas, and at Agency, Missouri. He attended the College of Physicians and Surgeons at Baltimore, Maryland, where he graduated in 1891. He practiced a few months following his graduation and located in Highland during 1892 where he continued to practice until his death. He was a former member of the Doniphan County Medical Society.

Dr. T. R. Hyatt, 79 years of age, died at his home in Topeka on August 27. Dr. Hyatt was born on May 31, 1857, near Cincinnati, Ohio, and moved to Kansas in 1881. He was employed by the Santa Fe Railroad for twenty-one years and later attended the Kansas Medical College in Topeka from which he graduated in 1905. He continued his practice in Topeka until the time of his death. He was a member of the Shawnee County Medical Society.

Dr. Howard Earl Marchbanks, 48 years of age, died in Pittsburg on August 7 from an attack of coronary occlusion. Dr. Marchbanks was born at Scammon in 1888 and attended high school at Columbus. He received his pre-medical training at the University of Kansas and also was a graduate of the University of Kansas Medical School in 1916. He served his internship at Bell Memorial Hospital in Rosedale and commenced practice in Pittsburg immediately following. He was a first lieutenant in the medical corps of the 218th engineers during the World War and was stationed in the Army Medical School in Washington, D. C., and at Camp Travis, Texas. He was a member of the Crawford County Medical Society and had held several official positions in The Kansas Medical Society.

Dr. F. K. Meade, 61 years of age, died following a heart attack at his home in Hays on August 2. Dr. Meade was born on February 25, 1875 at Sigourney, Iowa, and was a graduate of the Rush Medical College in 1902. Following his graduation he practiced eight years in Rooks County and subsequently moved to Hays where he practiced until his death. He was a member of the Central Kansas Medical Society and had served that organization in many official capacities.

Dr. J. A. H. Webb, 59 years of age, died at his home in Wichita on August 5. He was born in East Smithville, Pennsylvania, in 1877 and during his early years moved to Stafford with his parents. He received his medical training at the Kansas Medical College in Topeka from which he graduated in 1898. Following his graduation he practiced in Stafford and Preston for a number of years. He served as a major in the medical corps during the World War at Camp Taylor, Kentucky, Fort McPherson, Georgia, and Base Hospital No. 61 in

France. He located in Wichita during 1919 where he specialized in radiology. He was a member of the Sedgwick County Medical Society.

Dr. William H. Young, 63 years of age, died at his home in Fredonia, on August 13. He was born in Illinois in 1873 and moved to New Albany in 1875. He attended the public schools there and attended college at Fort Scott and Great Bend. He taught school in Wilson County for a number of years and attended the Eclectic Medical College, in Kansas City, Missouri, from which he graduated in 1904. He had practiced in Fredonia since 1907. Dr. Young served as county health officer of Wilson County for eighteen years and had held many official positions in the Wilson County Medical Society.

### NEW BOOKS RECEIVED

**CHEMICAL PROCEDURES FOR CLINICAL LABORATORIES**—By Marjorie R. Mattice, A. B., assistant professor of clinical pathology, New York Post Graduate Medical School of Columbia University. Published by Lea & Febiger, Philadelphia, at \$6.50 per copy.

**ARTHRITIS AND RHEUMATIC DISEASE**—By Dr. Maurice F. Lautman, consultant to the United States Public Health Service Clinic and Director of the Department for the Study of Arthritis, Levi Memorial Hospital, Hot Springs, Arkansas; foreword by Dr. Morris Fishbein, Editor, Journal of the American Medical Association. Published by Whittlesey House, McGraw-Hill Book Company, Inc., New York, at \$2.00 per copy.

**MEDICINE AND MANKIND**—Dr. Iago Galdston, executive secretary, New York Academy of Medicine. Published by the D. Appleton-Century Company, New York, at \$2.00 per copy.

**RECENT ADVANCES IN GENITO-URINARY SURGERY**—By Hamilton Bailey, F. R. C. S., (England) surgeon, Royal Northern Hospital; and Norman M. Matheson, F. R. C. S., surgeon Central Middlesex County Hospital. Published by P. Blakiston's Son & Company, Incorporated, Philadelphia, at \$5.00 per copy.

**HEART DISEASE AND TUBERCULOSIS**—By Dr. S. Adolphus Knopf, New York University and Paris, Published by The Livingston Press, New York, at \$1.25 per copy.

### BOOK REVIEWS

**CLINICAL LABORATORY METHODS AND DIAGNOSIS.** R. B. H. Gradwohl, M.D. Published by The C. V. Mosby Co., St. Louis. 981 pages, 328 illustrations, and twenty-four color plates.

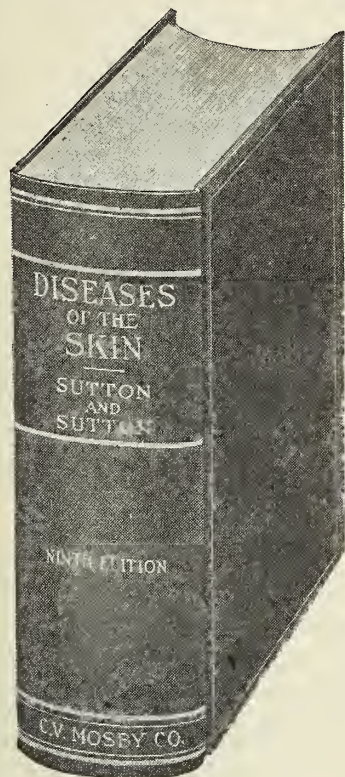
Although the author has written this massive work to "help the clinician, the laboratory worker, and the medical student to learn laboratory diagnosis," it will probably find its way into the shelves of more laboratories than physicians. The physician who wishes to keep up with laboratory work, or to perform for himself some of the less time consuming procedures as diagnostic aids, will find more assistance in any of the excellent books on clinical interpretations of laboratory findings which



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# **SUTTON'S DISEASES OF THE SKIN**

## **WHAT THE CRITICS SAY:**



### **Journal American Medical Assn.—**

"The excellence of the work is revealed by a careful examination of its contents."

### **The Lancet (London)—**

"Probably the most complete and trustworthy work of reference on its subject in the English language, and is worthy of a place on the shelves of every practicing dermatologist."

### **British Journal of Dermatology—**

"The type and general make-up of the book are admirable, and we have no doubt of its continued success."

### **U. S. Naval Medical Bulletin—**

"This is one of the best written and most handsomely illustrated manuals on dermatology in print. The skin lesions of gangosa, verruca peruana, oriental sore, leprosy frambesia, and other tropical skin lesions are given more extensive treatment than is commonly the case in American works on dermatology."

### **Virginia Medical Monthly—**

"Every practitioner needs in his library a standard work on dermatology. To the specialist this book is particularly desirable because of the bibliography which is appended to each subject. Its field of usefulness is tremendously wide. Its illustrations and the idealism of the publisher, as expressed in the technique of printing, make it a very desirable book."

### **Minnesota Medicine—**

"Sutton's volume on dermatology which first appeared in 1916 has been accepted as one of the best standard texts on the subject. The present volume is a large volume of 1,433 pages, and is especially valuable on account of the abundance and excellence of the photographs."

### **Southern Medical Journal—**

"The commanding place of this work among the standard texts in English on skin diseases is made even more secure by this fine edition."

### **Archives of Dermatology and Syphilis—**

"It is encyclopedic and scholarly. It has the spirit of an enthusiastic devotee of a specialty, and it has the vigor and piquant spirit that are Sutton. There is no need to advise dermatologists or other physicians that it should be on their shelves. They have already decided that for themselves, and in one edition or another it is found everywhere."

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have appeared recently or in the more tersely written handbooks of laboratory technic.

For those who find their primary interest in the laboratory, however, the book holds much of value. The chapters on hematology and serology are well written, particularly from a theoretical standpoint, but there are many statements which may be taken cum grano salis when the author insists on the paramount importance of his own work in the field, or impairs too frequently the scientific spirit with the intrusion of the personal pronoun "I." Although the technic of the Kline and Kahn tests for syphilis are given, there is no theoretical discussion, and flocculation tests in general are dismissed with one short and rather contemptuous paragraph.

The sections on bacteriology, basal metabolism, examination of excreta, puncture fluids, and gastric contents are adequate, and the material covering preservation of museum specimens and the preparation of material for histo-pathologic examination is especially valuable. Postmortem examinations are treated exhaustively, and a few important toxicologic procedures are included.

The chapter on Blood Chemistry outlines the more important technics and clinical interpretations, but might well be expanded to include a few of the more recent methods, even under the necessity of abbreviating some of the more prolix passages under hematology and post-mortem examinations.

The many illustrations and well designed color plates add much to the volume. There are numerous references to original papers, and a very satisfactory index.

J. L. Lattimore, M.D.

**LABORATORY METHODS OF THE UNITED STATES ARMY.** Edited by Major J. S. Simmons, M.D., and Major C. J. Gentzkow, M.D. Published by Lea and Febiger, Philadelphia. 1055 pages. Price \$6.50.

This volume, presented as the fourth edition of the "Army Manual," whose third edition, published under Colonel C. F. Craig, is widely and favorably known, is nevertheless so completely revised and rewritten by some twenty collaborating contributors as to be almost an entirely new work on the subject.

Intended primarily as a Laboratory Manual for the Army diagnostic laboratories and as a teaching manual for the Army Medical School, it is still of sufficient scope to make its use well worth while in civil laboratories and schools.

The chapter on "Hormonal Tests for Pregnancy," by Major Hugh W. Mahon is particularly to be commended as a valuable addition to the general literature on the subject, and might well be read with profit by anyone engaged in making the tests or by any doctor who has occasion to have the test run on his patients. The section on chemistry includes many subjects not ordinarily presented in a work of this kind, all of which are treated, if not exhaustively, at least adequately for the performance of such tests as may be indicated.

Of especial interest to those engaged in work requiring statistical interpretation, as in the preparation of vital statistics, death rates, etc., is the last section, which deals with "Statistical Methods."

The book is illustrated with engravings and contains

many charts, graphs, and tables which serve to clarify the text. There is an excellent index.

J. L. Lattimore, M.D.

## ANNOUNCEMENTS

The American Board of Internal Medicine completed its organization on June 15, 1936. Dr. Walter L. Bierring, Des Moines, Iowa, was elected as chairman; Dr. Jonathan C. Meakins, Montreal, vice-chairman, and Dr. O. H. Perry Pepper, Philadelphia, secretary-treasurer. The above named officers and the following members constitute the membership of the board: Dr. David P. Barr, St. Louis, Missouri; Dr. Reginald Fitz, Boston, Massachusetts; Dr. Ernest E. Irons, Chicago, Illinois; Dr. William S. Middleton, Madison, Wisconsin; Dr. John H. Musser, New Orleans, Louisiana; Dr. G. Gill Richards, Salt Lake City, Michigan.

The organization of the board is the result of efforts on the part of the American College of Physicians in conjunction with the Section on Practice of Medicine of the American Medical Association, and these two organizations are represented in the membership of the board. The board has previously received the official approval of the two bodies fostering its organization as well as that of the Advisory Board of Medical Specialties and the Council on Medical Education and Hospitals of the American Medical Association.

The purpose of the board will be the certification of specialists in the field of internal medicine and the establishment of qualifications with the required examination procedure for such certification.

The fee for examination is forty dollars, and an additional fee of ten dollars is required upon issuance of a certificate. The first written examination will be held in December, 1936. Further information may be obtained through Dr. Walter L. Bierring, 406 Sixth Avenue, Des Moines, Iowa.

—JKMS—

The next examinations for entrance to the Medical Corps of the United States Navy will be held in December, 1936, and June, 1937, at the following places: United States Naval Hospital, Great Lakes, Illinois; United States Naval Medical School, Washington, D. C.; United States Naval Hospital, Mare Island, California. For further information or for a copy of the circular describing the qualifications for application, write R. Hayden, Captain (MC), U. S. Navy, District Medical Officer, Great Lakes, Illinois.

—JKMS—

The second annual meeting of the Mississippi Valley Medical Society will be held at the Burlington Hotel in Burlington, Iowa, on September 30, October 1-2, 1936. More than sixty lectures by prominent speakers will be presented at morning, afternoon, and evening sessions. All physicians are invited to attend. A detailed copy of the program may be obtained from Dr. Harold Swanberg, Secretary-Treasurer, 211-224 W. C. U. Building, Quincy, Illinois.



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## AUXILIARY

Edited by Mrs. W. G. Emery, Press Publicity Chairman

### PRESIDENT'S MESSAGE

Dear Auxiliary Members:

Vacation time is over. I hope everyone has had a fine rest and is ready for work.

As we enter into the season of our great activity, may we go forth armed with real medical auxiliary objectives. There are always new possibilities of service and new challenges to a new executive. I hope that you will cooperate with me in helping me to find new fields of endeavor.

The heart of every auxiliary member was saddened by the recent passing away of Dr. W. H. Young of Fredonia. He was the husband of our Recording Secretary.

On behalf of the members of The Kansas Medical Auxiliary, I express our deepest sympathy and affection to Mrs. Young.

The curtailing of the Auxiliary pages in July was due to a press of national and state convention material. The omission in August was occasioned by the fact that the vacation period produced no news, activities being at a standstill, state wide.

Mrs. Earl F. Clark of Belleplaine writes of a glorious vacation trip to Alaska, arriving above the arctic circle at Fort Yukon after midnight to find nobody in bed and business proceeding as in our daytime. Fairbanks, Mt. McKinley, Seward, Matanuska, Seattle, San Francisco, Los Angeles and the Grand Canyon were visited, arriving home July 28.

### GETTING THINGS DONE

The President of a county Auxiliary and her two right hand workers, the Chairman of Health Education and the Program Chairman, were in conference in June.

"Well, ladies," the President said, "I have asked you to come to this conference so that we may have our plans all laid and start our work next autumn on a smooth running, interesting schedule of accomplishment."

"That sounds fine, Grace," replied the program chairman, "but it is too hot, right now, to think of accomplishing anything except surrounding a nice, long lime rickey or something else wet and cold!"

The maid entered with a tray of frosted glasses, a bowl of cracked ice and a tall pitcher of sparkling fruity liquid.

"You always say just the right thing, Alice," smiled the President. "It really requires opposition to bring out all the points. It is hot; but, if we have anything except just one more year, plans must be made and workers selected."

"You said a lot then, Grace," exclaimed the program chairman. "Getting plans carried out! Getting members to really work! I'm exhausted just thinking of it!"

The President sighed retrospectively. "Quite true, my dear," she replied. "It is the way in all societies. A few must carry the burden."

"And," supplemented the program chairman, "those few are always accused of wanting to run things their

way! As though we wouldn't be only too glad to shift the responsibility and work to other shoulders!"

"Yes," contributed the chairman of health education, "but you never meet opposition from those kittens at elections nor receive a sincere constructive suggestion!"

"I wonder," mused the President, "if the debate of a resolution to the effect that it is the sentiment of our County Auxiliary that the few members of the Medical Society who fought so long and valiantly to oust Brinkley from practice in Kansas, a sacrifice of time and money, be reimbursed for their monetary losses by the other members of the Medical Society would not be educational to our ladies? You see, those men received little or nothing (\$3.00 a day part of the time,) bore their own expenses, absented themselves from their practice, all through a sense of duty to public and profession. Yet all medical men rejoiced in their victory and participated in the credit thereof."

"Fine," exclaimed the program chairman. "I'll do that very thing. Yes, I guess all organizations have to be carried by a few—but just wouldn't it be splendid if every wife truly realized that her husband's profession was the most important thing for her to push? Yes, and equally splendid if every doctor would realize that his wife can help. Just wouldn't the State Auxiliary go places!"

The President smiled, "And now that we are all enthused let's get down to work," she said.

The above was contributed by a doctor who is a close observer and has a great deal of interest in the medical Auxiliary.

Members of the Wilson County Auxiliary and County Medical Society were entertained by Dr. and Mrs. B. R. Riley in Benedict on June 8. Following the dinner the respective groups held business meetings. Mrs. E. C. Duncan, outgoing president, had charge of the meeting. Reports were given concerning the state meeting in Kansas City, Kansas. About fourteen members attended the dinner and meeting.

### An Auxiliary Member Should Know That—

A Medical Auxiliary serves the Medical Profession and through it the public. Such service is very satisfactory, as it is unselfish.

An Auxiliary is always organized with permission of the Medical Society and should have an Advisor or Advisory Committee to direct it. The Auxiliary should give an annual report to its Society and undertake no new project without approval.

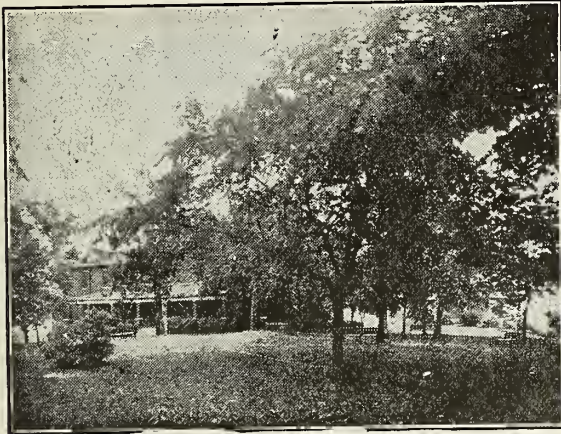
The principal functions of an Auxiliary are: Health education, public relations, legislation (reserve force), philanthropy, social.

The laity requires health education, but it should be given through the Medical Profession, so there may be rational control of what the public does and thinks in medical health activities. A most important objective of the Auxiliary is to direct public thinking and activity in channels the profession desires and to extend authentic information on health. We only support an organization



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when we are a member and when we understand the tasks and objectives and how to accomplish them. An Auxiliary member therefore should attend as many meetings as possible so she may—

1. Understand the purposes and objectives of the Auxiliary.
2. Receive instructions in the particular charge given her by local, state, national and know why assigned.
3. Understand how to fulfill that charge.
4. Become informed about:
  - a. personal and community hygiene
  - b. administration of local, state, national health
  - c. medical and health laws, local, state, national
  - d. the health of her community
  - e. communicable diseases; their control and prevention
  - f. her health in relation to her family, her community
  - g. the general problems of health all should know
  - h. approved educational material and where to obtain it
  - i. the development of the Medical Arts
  - j. why the A. M. A. urges the promotion of Hygeia; how done
  - k. what legislation the Medical Society sponsors; why; how the Auxiliary acts as a reserve force; what the individual member may do
  - l. philanthropic work related to the Medical Profession; what her Auxiliary is doing and why.

How Does A Member Support Her Auxiliary?

- By —
1. paying her dues
  2. attending meetings
  3. accepting offices, chairmanships in other organizations, especially those related to health, so informed speakers may address them; so approved material may be distributed; so programs and projects undertaken be scientifically sound; so information that the profession wishes to place, may be given promptly
  4. keep informed about medical matters and health activities in other organizations and report unwise and unacceptable ones to the Advisors
  5. promote good fellowship by affability at meetings and attend entertainments, conventions; assist at them as requested
  6. by fulfilling the charge given them; not necessarily all of it, but as much as she is able. It is not necessary to partake of every phase to be a good member

The busy wife is an asset to the Auxiliary if she is an informed member, because she has many opportunities to carry the aims and decisions of the Medical Profession and keep health leadership where it belongs. As a member, she may speak with authority and receive respect

and attentions that will be missing as an unattached doctor's wife. She will know when to keep quiet and merely report to the Advisors, or Auxiliary President, and she will know when and how to answer.

The time has come when the Auxiliary has so proved its worth that the question is not, "Are you an Auxiliary member?" but "Why are you not a member?"

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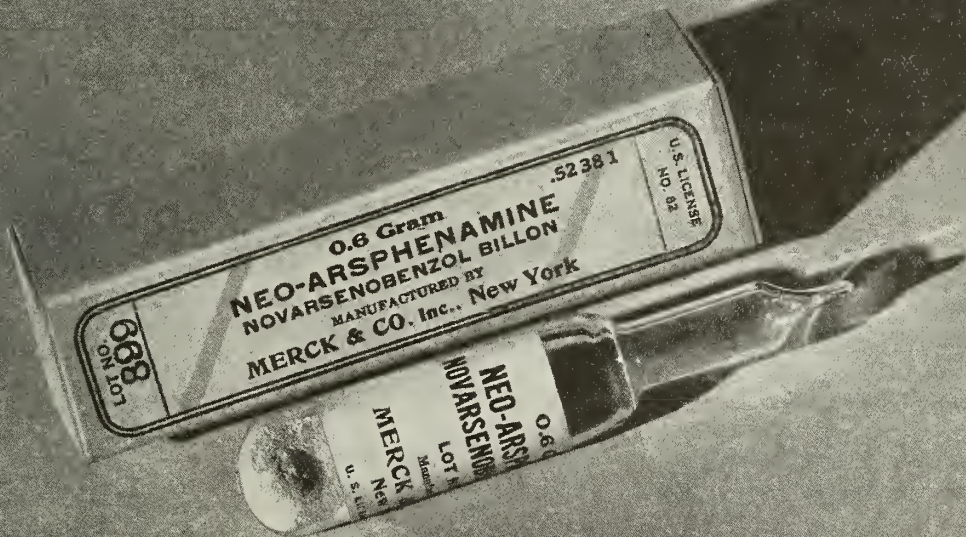


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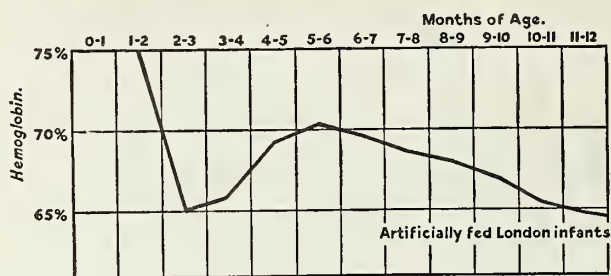
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# Nutritional Anemia in Infants



Hemoglobin level in the blood of infants of various ages. Note fall in hemoglobin, which is closely parallel to that of diminishing iron reserve in liver of average infant. Chart adapted from Mackay. It is possible to increase significantly the iron intake of the bottle-fed from birth by feeding Dextri-Maltose With Vitamin B in the milk formula. After the third month Pablum offers substantial amounts of iron for both breast- and bottle-fed babies.

## Reasons for Early Pablum Feedings

1. The iron stored in the infant's liver at birth is rapidly depleted during the first months of life. (Mackay,<sup>1</sup> Elvehjem.<sup>2</sup>)
2. During this period the infant's diet contains very little iron—1.44 mg. per day from the average bottle formulae of 20 ounces, or possibly 1.7 mg. per day from 28 ounces of breast milk. (Holt.<sup>3</sup>)

For these reasons, and also because of the low hemoglobin values so frequent among pregnant and nursing mothers (Coons,<sup>4</sup> Galloway<sup>5</sup>), the pediatric trend is constantly toward the addition of iron-containing foods at an earlier age, as early as the third or fourth month. (Blatt,<sup>6</sup> Glazier,<sup>7</sup> Lynch<sup>8</sup>.)

## The Choice of the Iron-Containing Food

1. Many foods reputed to be high in iron actually add very few milligrams to the diet because much of the iron is lost in cooking or because the amount fed is necessarily small or because the food has a high percentage of water. Strained spinach, for instance, contains only 1 to 1.4 mg. of iron per 100 gm. (Bridges.<sup>9</sup>)
2. To be effective, food iron should be in soluble form. Some foods fairly high in total iron are low in soluble iron. (Summerfeldt.<sup>10</sup>)
3. Pablum is high both in total iron (30 mg. per 100 gm.) and soluble iron (7.8 mg. per 100 gm.) and can be fed in significant amounts without digestive upsets as early as the third month, before the initial store of iron in the liver is depleted. Pablum also forms an iron-valuable addition to the diet of pregnant and nursing mothers.

Pablum (Mead's Cereal thoroughly cooked and dried) consists of wheatmeal, oatmeal, cornmeal, wheat embryo, brewers' yeast, alfalfa leaf, beef bone, iron salt and sodium chloride.

<sup>1-10</sup> Bibliography on request.

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# THE JOURNAL

of the

## Kansas Medical Society

VOL. XXXVII

OCTOBER, 1936

No. 10

### THE PROBLEM OF CHILDHOOD TUBERCULOSIS\*

DONALD N. MEDEARIS, M.D.

Kansas City, Kansas

The importance of tuberculosis as a general medical problem receives wide-spread recognition by physicians, and as long as we lack any specific form of therapy with which to combat this plague, we shall have to pay particular attention to prevention, and develop skill in early diagnosis. The steadily accumulating evidence that the adult type of tuberculosis can, and does develop endogenously from the childhood type lends emphasis to the pediatric phase of the problem. The frequency of tuberculous infection in children as shown by the percentage of positive reactors to tuberculin tests in various surveys in this country has averaged roughly ten to fifteen per cent of all children up to fifteen years of age. Drolet<sup>1</sup> found, among 6,080 children admitted to three general hospitals in New York, eleven per cent positive reactors among the white children, fifteen per cent among the negroes; thirteen per cent of the boys, fifteen per cent of the girls; thirty-five per cent of the children with a positive history of home contact, and ten per cent of those without such history of home contact. Stewart<sup>2</sup> found among 11,369 children fairly representative of the poorer half of the child population of Minneapolis, 4,087 positive reactors to tuberculin. In a similar group in Detroit, a survey started during my service at Henry Ford Hospital showed fourteen and one-half per cent positive reactors. I know of no real data on the percentage incidence of positive tuberculin reactors locally; but, of fifty-seven tested at the Life Line Orphanage recently, three reactors were found. We should be cautious, however, in interpreting this as

evidence for our relative freedom from childhood tuberculosis in Kansas City, for we are still able to show fourth year medical students clinical cases of miliary tuberculosis or tuberculous meningitis in infants with alarming regularity.

We commonly consider two sources of tuberculosis; first, the human case with an open lesion, and second, the milk herd infected with bovine tuberculosis providing raw milk for human consumption. With the modern emphasis on tuberculin testing of dairy herds, pasteurization of city milk supplies, and boiled or processed milk formulae for infants, we would seem to be well on the way toward eradicating the latter source. Indeed, Holt cites in his text book the following experience to show how relatively unlikely is the individual's chance of acquiring tuberculosis by drinking raw milk from tuberculous cattle. Shortly after tuberculin testing of cows was started, a dairy herd which for ten years had been supplying raw milk was found to show a forty-five per cent incidence of tuberculosis. But a careful investigation of all families receiving milk from this dairy revealed only one child who had developed tuberculosis, and milk as the source for this infection was not proven. Among employees of the dairy who had drunk the raw milk freely, there was no case of tuberculosis. On the other hand, Griffith<sup>3</sup>, investigating 188 cases of tuberculous meningitis in England and Scotland (1931-33), found twenty-five per cent due to bovine tubercle bacilli.

Although it is admitted that the tubercle bacillus may invade the human host via the respiratory tract, the gastrointestinal tract, or even the skin, it is now a generally accepted opinion that tuberculous infection occurs, as a rule, through inhalation of the infective agent. In the newly born infant, direct infection from the placenta by way of the umbilical vein may occur rarely, as shown by a number of authors,

\*Read before the Wyandotte County Medical Society, February 18, 1936.

most recently (perhaps) Siegel and Singer<sup>4</sup>. But the real hazard leading to tuberculous infection in the young child is his intimate home contact with an open case, subjecting him to the risk of inhalation of infective droplets or dust particles. An accurate measure of the size of this risk is hard to determine. Weber and Stürmlinger<sup>5</sup> report a recent experiment in which they exposed guinea pigs intimately to the children in the tuberculosis ward and, after long periods of contact, found not a single animal with evidence of tuberculosis either by skin test or by macroscopic and microscopic postmortem examination. However, they are unwilling to accept such data as conclusive evidence that children with tuberculosis do not spread the disease, and continue to use isolation technique in their wards. Moreover, Larsen and Halberg<sup>6</sup> produce other evidence in recent literature showing a much higher degree of contagiousness. These authors have conducted systematic tuberculin tests since 1924 on the school children of a Danish town of 14,000 inhabitants. Of 1,877 children tested, 361 positive reactors were found. Domestic sources of infection were found in only seventeen per cent of these reactors. Seventy-five per cent of the reactors gave no evidence involving their homes as possible sources of tuberculosis. The milk supply was above suspicion. Repeated tests of various classes, year after year, showed more new reactors in those groups where there was a nucleus of positive reactors. The authors are convinced by their data that intra-school infection is a significant factor in the spread of tuberculosis among children of school age.

In whatever way the bacilli are inhaled, they finally lodge in an alveolus, cause irritation of the alveolar epithelium, and produce a pneumonic inflammatory process, the primary focus. This focal area together with the lymphangitis and glandular lesions set up as the tubercle bacilli spread along the lymphatics to the hilar glands, is termed the primary complex. As the individual's immune forces rally against this invasion, a wall of lymphocytes surround the primary focus and an area of caseous necrosis develops in the center of the lesion. The disease is in its stage of incubation and these pathological changes are so slight as to make their detection impossible by either physical examination, roentgenologic examination, or tuberculin test. Examination of the fluid obtained by gastric lavage during this stage may give

positive findings on guinea pig inoculation, as Arvid Wallgren<sup>7</sup> reports. This author states that the end of this stage of incubation is marked by the appearance of allergy. There is a rather sudden and violent inflammatory reaction around the primary focus, consisting of hyperemia with desquamation of alveolar cells, lymphocytic infiltration, and edema; there is a similar reaction in the hilar glands; and for the first time the individual shows a positive reaction to the tuberculin test. Tuberculosis has now manifested itself clinically as a disease, and this first manifest stage is called primary tuberculosis. Clinically, primary tuberculosis may begin in one of three ways according to Wallgren. First, it may reveal itself in no way save a positive reaction to tuberculin. Second, and most commonly, fever may occur coincidentally with the development of allergy. And finally, some children may have erythema nodosum together with fever and a positive tuberculin test.

As during the incubation stage, physical examination usually yields only negative results in primary tuberculosis. Wallgren cites two symptoms as diagnostically helpful when present, (a) expiratory stridor, and (b) bitonal cough, both caused by compression of contiguous bronchi by swollen hilar glands. The x-ray, of course, is very helpful and may show shadows quite startling in their extent in view of the negative physical findings. Johnston, Howard, and Maroney<sup>8</sup>, in reporting their experiences at Henry Ford Hospital, describe three stages in the pulmonary phase of this first infection as shown by the roentgenogram: (1) The plate showing the exudation or infiltration in the parenchyma of the lung; (2) the plate showing the parenchyma relatively clear but the hilum region enlarged; and (3) a final plate showing the hilum nodes diminished in size and showing calcification. There is nothing pathognomonic in the roentgenogram of fresh primary tuberculosis, and the clinician must find support of the x-ray evidence in symptoms, history and the tuberculin test for a reliable diagnosis.

After this primary complex is established, the development of the disease may be along divers pathways. Edith Lincoln<sup>9</sup>, convinced by her experience in the chest clinic of the Children's Medical Service of Bellevue Hospital, presents the theory that hematogenous dissemination of tuberculosis follows in a majority of cases. Bacilli may enter the blood stream



not only by erosion of a caseating focus into a blood vessel, but also by spread of the initial infection to the hilar nodes and thence via the lymphatic duct into the venous circulation. Four types of such cases may be distinguished clinically: (a) Those showing a protracted form of generalized dissemination; (b) easily recognized cases of acute miliary tuberculosis; (c) cases, such as renal or osseous tuberculosis, in which the predominant lesion is of hematogenous origin; and (d) cases in which the bacillema is occult, occurring without any clinical manifestations. If this theory be true it is fortunate that the fourth group is the largest, for it is clinically true that in the great majority of cases primary pulmonary tuberculosis progresses to healing. Very soon a wall of granulation tissue is built up to prevent further spread of the lesion. Collagen fibers appear and the focus of disease is ultimately surrounded by a compact capsule of hyaline connective tissue. The central area of caseous necrosis is steadily calcified. The resulting calcified primary complex signifies clinical, but not necessarily bacteriologic healing; there may be retained in such lesions, bacilli which are pathogenic for guinea pigs even after many decades. The calcified complex usually undergoes considerable regressive changes, but Wallgren<sup>7</sup>, with his large experience at Gothenberg, Sweden, has never had the opportunity to observe a patient long enough to establish the complete disappearance of a calcified focus.

The significance of this healed primary complex from the point of view of the child's health is a disputed question. As to the value of the immunity bestowed by primary tuberculosis when children with such residual lesions are subjected to a new attack of the disease, Wallgren<sup>7</sup> believes that such persons, manifesting sensitivity to tuberculosis by skin test, possess a certain resistance to exogenous superinfection. He feels that this immunity is not an absolute protection against the organisms which have produced the primary disease. Healed primary tuberculosis does not render the child immune to secondary and tertiary forms of tuberculosis or to an activation of the old primary tuberculosis itself. However, he points out that such relapses are seldom seen in a case of old primary tuberculosis, but occur more frequently in cases of comparatively fresh primary tuberculosis, especially just after some acute infectious disease, such as measles, pertussis, or a common cold.

In hopes of conferring this rather vague immunity with a minimum attendant risk of incurring active tuberculosis disease, attempts have been made over a long period of years to vaccinate against tuberculosis by various methods. As shown by Petroff<sup>10</sup> recently, there are three general methods used in such attempts: (a) Vaccination with virulent living tubercle bacilli, (b) inoculation with avirulent living tubercle bacilli, and (c) injection of heat-killed virulent tubercle bacilli. Obviously, the risk in the first method is too high; and even in the second method there exists the possibility of avirulent organisms increasing their virulence after the introduction into the human body and producing clinical disease. There are a number of recent experiments tending to support the effectiveness of the third method, which is of course without the attendant risk of tuberculous disease. Goodwin and Schwentker<sup>11</sup> have recently reported favorably such an experiment. Aronsan and Dannenberg<sup>12</sup> have recently added their favorable report to the many already confirming the effectiveness for immunization of B C G, a culture of Bovine Tubercle Bacilli isolated by Calmette and Guérin, in 1908, from a tuberculous udder of a cow and attenuated by repeated transplantations to media containing beef bile.

A dissenting opinion regarding the immunity conferred by the primary tuberculous infection is voiced by Chester A. Stewart<sup>2</sup> of Minneapolis, who believes that a primary infection makes possible rather than prevents the adult type of tuberculosis, that a negative reaction to tuberculin is superior to a positive, and that an initial infection will be accepted as hazardous rather than protective. He develops his case as follows: Tuberculous meningitis, miliary tuberculosis and tuberculous pleuritis constitute three important immediate hazards which endanger the life and health of young patients when they receive their initial infection. Those who die of these hazards represent a heavy sacrifice exacted for obtaining an alleged immunity. A most excellent immunity can scarcely be worth this price. Clinical experience shows that the susceptibility to these three hazards by normal uninfected children is not abolished or corrected by the development of the immunologic state which accompanies the appearance of sensitivity to tuberculin. Moreover, the initial tuberculous infection produces multiple primary foci from which virulent bacilli may escape months or years later. Phthisis develops

exclusively in tuberculin-sensitive persons. In other words, a single etiologic agent, the tubercle bacillus tends to produce the benign primary form of tuberculosis when it invades the normal non-allergic person, but is inclined to cause a more serious re-infection form of the disease when it lodges on sensitized tissues. Thus, the risks which are created when sensitivity to tuberculin is acquired stand out conspicuously, whereas the beneficial assets of the abnormal immune state elude positive identification.

Dr. Johnston, with whom I worked in Detroit, tends to concur in this belief and feels that, by some survey method such as he is using, the adult type lesion will be picked up in time to lend itself easily to cure. Moreover, he reports<sup>8</sup> that clinical results in the group of positive reactors followed with graded tuberculin tests at monthly intervals in order to establish the time, the peak of sensitivity to tuberculin occurred during the primary infection, pointed to some beneficial therapeutic effect from repeated tuberculin injections in conjunction with hygienic measures, which included large doses of cod liver oil and administration of ultraviolet light.

Frequent mention has been made thus far of tuberculin testing. Some brief description of the various methods of employing this excellent diagnostic procedure is probably in order. As has been pointed out, the sensitivity to tuberculin develops as the primary complex reaches its height, and persists thereafter in that individual at least to some degree, unless there should be true bacteriologic healing of the primary focus. There are three general groups of tuberculin tests: First, a cutaneous scratch or abrasion with a rather blunt scarifying instrument and inoculation of the wound with Koch's old tuberculin—The Pirquet test; second, an intradermal test whereby 1/10 c.c. of dilution of Koch's Old Tuberculin is injected intracutaneously—the Mantoux test; and third, some modification of an inunction method. Wallgren<sup>7</sup> recommends Hamburger's Perkutan tuberculin. This is an European product and is accordingly expensive. An area of skin over the sternum is cleaned with ether and allowed to dry, then a bit of ointment the size of a grain of rice is rubbed in this area with the finger. A positive reaction is indicated in the first two methods by a surrounding area of erythema appearing in about forty-eight hours and persisting at least five or six days. In the third method, a positive test is indicated by a num-

ber of papular efflorescences appearing in from three to five days and remaining visible for about two weeks. The Mantoux test is by far the most sensitive. A modification of the Mantoux technique using a purified tuberculin protein instead of Koch's Old Tuberculin, has been advocated recently as being even more sensitive; but Dr. Johnston tells me he avoided its use in his survey because of the possibility that it might induce sensitivity when used in repeated testing. Both the Pirquet test and Mantoux tests have the objection that they cause some pain and apprehension on the part of office patients. The material used in the simple and painless inunction methods is expensive—also a major objection. Everything considered, the Mantoux intradermal test is probably the method of choice.

Finally, after this brief outline of some of the salient facts and theories pertaining to present day understanding of the problem of childhood tuberculosis, I believe the lessons which may well be applied to routine pediatric practice may be summarized as follows: First, a wider use of the tuberculin test in diagnosis is advisable. Certainly every child giving a history of home contact with tuberculosis should be so tested. Any child with inadequately explained fever or with a subnormal weight gain deserves a tuberculin test. Indeed, a Mantoux test may well be made a routine procedure in every hospital admission of a pediatric patient. Second, every positive reactor should have a roentgenogram of the chest, and the interpretation of this plate should be made by a physician adequately trained in x-ray diagnosis of tuberculosis. And third, every case in whom a primary tuberculous complex has been diagnosed, merits an adequate medical follow-up with proper hygienic and dietary supervision and examinations at intervals frequent enough to assure the detection of any developing adult type or disseminating lesion early enough to establish effective special therapy.

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## ACUTE OTITIS MEDIA\*

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Otitis media or middle ear abscess as we more commonly term it is the most frequent complication of an infection of the upper respiratory tract. Its onset may be insidious, reaching its peak after a few days to a week or it may develop suddenly and in an hours' time be at its peak as far as involvement of the middle ear is concerned.

To a certain extent the particular section of the middle ear cavity involved decides the severity of the inflammatory process. In the upper portion of the tympanum connective tissue predominates, and this provides a far better propagating ground for pyogenic organisms than does the lower portion, which has little more than a relative thin lining of mucous membrane where it is difficult for organisms to establish themselves.

Therefore if the inflammatory process starts in the upper part of the tympanum it is apt to pursue a more virulent and dangerous course and the likelihood of complications, especially in the mastoid is thereby enhanced. The special anatomic conditions which tend toward this outcome—are, that the vault is posteriorly directly continuous with the antrum of the mastoid; pus which collects there from a primary infection is not subjected to pressure in the same way as the pus which arises in the upper posterior part of the tympanum and soon ruptures the drumhead in the simpler form of middle ear inflammation. Because pus collected in the vault is not under high pressure it is likely to flow backward into the antrum. After the antrum has filled it may reverse itself and flow into the lower part of the tympanum

but this may occur after several days delay and mastoid disease has already started.

First we will take up the simple variety we hope all cases to be. The symptoms as you know so well are: (1) Excruciating deep pain. (2) Elevation of temperature—higher in children. (3) Headache and delirium of lesser frequency. (4) Loss of hearing.

The appearance of the tympanic membrane will vary with the time interval. From a redness of Sharapnell's membrane and an intact light reflex to a grayish yellow membrane bulging to a point that no details can be made out.

In the opinion of most otologists there is no doubt about the treatment. Incision of the tympanic membrane is the only rational thing to do. By this I must confess that I do not adhere to the oft heard statement that incision of an ear drum never does any harm. It certainly does not when the middle ear cavity is the seat of suppuration. And in older children and adults I have seen no damage. But in infants under one year of age we find a perplexing problem about which I intend to speak a bit later. The use of phenol and glycerine drops does not abate the disease. It ameliorates the pain and if suppuration is not taking place, will quiet the patient—or sometimes keeps us from getting out in the middle of the night.

The act of myringotomy is a procedure I feel that all physicians should feel free to do. Children beyond two years of age are usually given some type of anesthesia—ethyl chloride being the most common. I am not entirely satisfied with the use of the cocaine, menthol and phenol mixture. To obtain good anesthesia it must be left in contact with the tympanic membrane about fifteen minutes. I am sure that I have seen some serious damage done to the canal and membrane by this solution. I can remember several apparently benign or mild abscesses which went on to an atypical mastoiditis, and I felt that perhaps the solution had been the cause of the early necrosis.

In infants no anesthetic is necessary or justified except in those rare occasions when it would be much wiser to anesthetize one or both parents. Incision is made either from above down or from below upward. Better yet to half circle the membrane so that a larger incision gives for more free drainage.

With incision we have the onset of discharge—usually serous then becoming puru-

\*Read before Southeast Kansas Medical Society on June 23 in Independence, Kansas.

lent. The purulent discharge as a rule will last from two to three weeks. This is a so-called uncomplicated case.

After myringotomy, what? Shall we irrigate or not irrigate. No doubt irrigation properly done keeps the canal cleaner. But how much damage does improper irrigation do? The average parent is very desirous of doing as much for their offspring as is possible. Far too often does their zealous attitude carry them too far and they do too much. They can irrigate too strongly and injure the child—perhaps reverse the flow of pus and delay healing. At the present time after having gone through a period of irrigation I do not have the mother irrigate the ears of her offspring and try to explain to her that in my opinion the ears progress better without irrigation.

As stated earlier we are describing an uncomplicated case. The discharge will vary from a few days to two to three weeks, gradually subside with a normal temperature and return of hearing. In about five weeks the ear drum will begin to show a few normal landmarks.

If only all cases were as above, otology would be a utopia. But here is a typical history which takes the joy out of things. The child, with a temperature of 100 degrees to 101 degrees, not awfully sick, complains of transitory earache. We see a red, moderately bulging drum. We incise and drainage is as it should be for a day or two and everything points to an uneventful recovery. Then comes a chill and temperature of 105 degrees to 106 degrees. Blood count is 20,000 to 25,000. Blood culture is positive or negative. For three to four days we have excursions from 98 degrees to 106 degrees. I still feel that a little conservatism is in order. I was first introduced to this some six or seven years ago. Our diagnosis was lateral sinus thrombosis agreed to by several. Blood culture positive for Strep V. We told the family that we should operate, uncover the sigmoid sinus and tie off the jugular. We were promptly dismissed from the case and a naturopathic electrician called in. The child got well. The father even threatened to sue because we had lanced the ear drum.

Since then I have seen a large number of these cases, and it seems more than ever within the last few months. With one or two transfusions the septic condition subsided and mastoidectomy has not proven necessary as yet. We feel able to state that unless we have

a hemolytic streptococcus blood culture which is causing a severe anemia and decrease in leukocytes no emergency exists. I am sure we have rushed into these cases and perhaps added to our complications.

As to babies in the first few months of life—we have first of all a small canal, sometimes too small. The tympanic membrane sits at a very acute angle with the floor of the canal. We know of nothing more difficult than to try to make an accurate diagnosis of acute otitis on a two months old baby with no one present who knows how to hold the baby. Consequently we have incised many tympanic membranes in infants that did not need it and have seen as many more opened by good pediatricians that did not need incision. How do we know this? Because we had no drainage for about twenty-four hours. It took about that long for the middle ear to be secondarily infected either from the outside or inside. The tympanic membrane serves as a drum—when a baby cries and the tympanic membrane has a hole in it the infected secretions from the nasopharynx are carried directly to the middle ear as the air goes on out the opening in the drum, and many cases of chronic otitis media resulted from secondary infection.

Before we close we should say something about the pneumococcus type III infections or streptococcus mucosus as it is called in foreign clinics. The onset of a typical pneumococcus III infection may be without much pain and little or no fever. Only a mild sticking pain, marked deafness with half head sensation and noises. Incision finds a thickened tough membrane with no sensation of dropping into a middle ear cavity. This is due to the fact that the streptococcus mucosus does not produce much suppuration. It does produce a pulpy granulation—rather a proliferation and thickening of the mucosa. This spreads throughout the pneumatized area. About ninety-five per cent of these cases require mastoid operation, usually not before the sixth week. Complications ensue if not operated anytime from eight weeks to years after onset. Diagnosis depends on the bacteriology, history and x-ray. Physical findings of mastoiditis will be quite few or absent entirely with the whole inner table or sinus plate destroyed. They heal rapidly and the result is excellent.

In summary of our thoughts and observations on acute middle ear infections up to



operative interference we would like to say that we have never lost anything by being conservative and that a great deal of worry and self criticism could have been saved had we been more conservative on some cases where the family has stampeded us into doing something. Each case is different unto itself and no rules can be laid down which will guide us through each and every case to a happy and satisfactory conclusion.

## LOCAL ANAESTHESIA IN THE REDUCTION OF FRACTURES\*

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As a general rule some type of anaesthesia is essential in the reduction of fractures. Anaesthesia in the manipulation of fracture is desirable for two reasons, not only for relief to the patient of the severe pain coincidental to manipulation but also for the relief of both voluntary and involuntary muscle spasm which often effectually blocks all attempts at reduction. The reduction of a fracture without the use of anaesthesia is incompatible with the modern practitioner's desire to alleviate pain.

There are definite disadvantages in the use of general anaesthetics in the treatment of fractures: 1. There is of course a certain though low mortality associated with all general anaesthetics. 2. Extrinsic factors such as concurrent illnesses, recent meals, etc. may contraindicate the use of a general anaesthetic. 3. The use of general anaesthetics offers difficulties while working under a fluoroscope. Most fluoroscopic rooms are as devoid of air currents as they are devoid of light. In the course of a long ether anaesthetic sufficient ether vapor may accumulate to explode from the spark of the x-ray machine. In a room sufficiently dark for effective fluoroscopic technique the anaesthetist is unable to watch his patient's color while he is giving a nitrous oxide anaesthetic. Chloroform in the hands of most younger physicians is an unsafe anaesthetic because they have had little or no instruction in its administration.

Novacaine used locally overcomes these disadvantages of general anaesthetic and it possesses certain advantages not inherent in general anaesthetics. Long series of comparative cases

in which general anaesthesia and local anaesthesia have been used show the novacaine anaesthesia to have a lower mortality than any of the general anaesthetics. In contrast to the use of general anaesthesia novacaine may be used despite severe colds or even pneumonia without fear of aggravating the condition. Local anaesthesia is ideal for work in a fluoroscopic room and it does not offer the disadvantages of the general anaesthetics above mentioned.

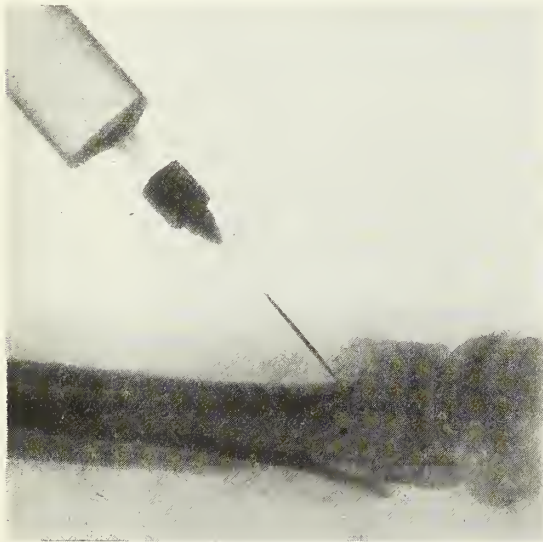
In the reduction of fractures novacaine is superior to the general anaesthetics for the reasons given above and it possesses inherent advantages. Elderly people tolerate general anaesthetics poorly and often experience difficulty in overcoming the shock of the anaesthetic superimposed on the shock of a fracture. In cases of fractured hips in the aged for instance the shock of a general anaesthetic may be the factor of life or death to the patient. The use of novacaine anaesthesia in the reduction of fractures in the aged eliminates the factor of anaesthesia from the difficulties which must be overcome. The services of a second physician to give the anaesthetic are unnecessary. In rural practices this second physician is not usually available. With the use of novacaine the physician may be his own anaesthetist and may also properly reduce the fracture. Additional expense is saved by the patient because he does not have an anaesthetic fee and because post-anaesthesia hospitalization is not necessary. The freedom from the post-anaesthetic systemic reactions is a source of satisfaction for the patient as well as the physician. The greatest advantage of local anaesthesia is the long period of time during which a reduction may be obtained, a splint applied, an x-ray check-up made, and then if the position is unsatisfactory, a second reduction may be made before sensation returns. This long period of anaesthesia continues without the devitalizing effects of a general anaesthetic and the physician has ample opportunity to obtain an x-ray check-up after the splint has been applied in order to assure himself a perfect position has been retained. If the position retained is not perfect the splint may be removed, the reduction may be altered, and another splint may be applied without the necessity of a second anaesthetic. There are a great number of poor functional and aesthetic fracture results obtained because physicians, in viewing post-operative x-rays, have felt it wiser to allow a malposition to remain than to ad-

\*Presented before the Sedgwick County Medical Society in Wichita.

minister a second anaesthetic. These malpositions may be prevented by the use of novacaine as their correction is simple.

However there are certain disadvantages to the use of a local anaesthetic in fractures. Highly emotional types, unco-operative patients, and children do not tolerate any local anaesthetic easily. Old fractures cannot be anaesthetized. Fresh fractures which, in the first twelve hours, have a fluid hematoma are the only ones in which local anaesthesia is applicable. Compound fractures and fractures lying under an infected field are not properly selected cases.

The entire means of anaesthetizing a fracture with novacaine is the injection of a sufficient amount of the novacaine solution directly into the hematoma about the fracture. The solution diffuses through the hematoma bathing the ends of all the lacerated nerves with novacaine as well as blocking the nerves lying in the periosteum and endosteum. If a sufficient amount of novacaine is injected into a recent fracture hematoma and if a sufficient time is allowed to elapse anaesthesia is assured. Without pain in the fracture area both voluntary and involuntary muscle spasm disappear and the patient will not only permit any manipulation but will even co-operate in the reduction of his fracture.



An x-ray of a perfect position of the needle for the injection of the hematoma in a Colles fracture.

The technique followed by the author is the technique which has been popularized by Lorenz Boehler of Vienna, Austria. Keeping in mind that the injection of the hematoma

about the fracture is the ultimate objective and that injection of a septic solution might be of serious consequence the following technique is practiced: A wide skin field about the fracture is carefully cleansed with benzine and then with alcohol. Sterile towels are then draped about the field completely isolating it. With sterile gloved hands the fracture site is carefully palpated and the position of the fracture accurately located. With a very fine needle one or two cc of two per cent novacaine are injected into the skin to make asensitive the introduction of a larger needle. A hypodermic needle of sufficient length to reach the fracture site is then attached to a ten cc syringe which is one half full of two per cent novacaine. The needle is passed through the wheal directly into the fracture site until it makes bony contact. The plunger of the syringe is then pulled back thus aspirating blood from the hematoma. If no blood is aspirated the needle is not properly placed. It must then be partially withdrawn and reintroduced until a position is found where blood may be aspirated. Blood from a fracture hematoma may be and must be differentiated from arterial or venous blood before the novacaine is injected. This differentiation is made by fat globules rising through the novacaine from the aspirated blood. These globules may be seen passing through the solution to the surface where they form a film of tiny discreet circular droplets. These fat globules are never found in venous and arterial blood.

After the operator has ascertained that the needle is in the hematoma two per cent novacaine solution is injected. The amount of novacaine injected depends upon the location of the fracture; ten cc. are usually sufficient for a Colles fracture and forty to fifty cc. are sufficient for fractures of the femur. After the injection of the novacaine five to ten minutes are allowed to elapse before reduction is attempted. Rarely more than ten minutes are necessary for anaesthesia to appear.

The period of anaesthesia is about forty-five minutes which allows ample time for manipulation, x-ray check and position change if necessary.

This method of anaesthetizing fractures has been used by the author in the following types of fracture: Colles, both bones of the forearm, elbow, humeral shaft and head, clavicle, vertebral bodies, intra and extra capsular hips, femoral shaft, both bones of the leg. The



author has found local anaesthesia applicable in patients as young as four years and as old as eighty-two years.

#### SUMMARY

Anaesthesia in the reduction of fractures is essential to alleviate unnecessary suffering and to eliminate muscle spasm.

The use of general anaesthetics offers certain disadvantages in the technique of fracture treatment which disadvantages are eliminated by the use of local anaesthesia.

Reduction of fractures under local anaesthesia is simple, efficacious and meets the requirements for a good technique.

#### URETERAL PAIN\*

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Ureteral pain can be divided into two main types; either the dull, diffuse type or the acute, colicky pain.

The dull, diffuse type is important because of the frequent error in the differential diagnosis of ureteral pain from intra-abdominal conditions such as gall bladder disease, recurrent appendicitis, or some type of pelvic disease or disorder. If the pain is definitely associated with pain and tenderness over the kidney the diagnosis is easy. Often, however, the pain is limited only to the ureter and the differential diagnosis is more difficult. The pain may be constant or it may be periodic in its occurrence. The pain may be either in the flank or in the lower abdominal quadrants on either side. Occasionally there may be some radiation into the genitalia or the thigh but in the dull, diffuse type of ureteral pain this is uncommon. Some resistance of the abdominal muscles is suggested and on deep pressure tenderness of the ureter can be elicited if the ureter is compressed against the pelvic brim. Urinary frequency may be present. On urine examination, many times a great deal of pus is found but sometimes there may be only an occasional pus cell or no pus cells may be present.

The dull, diffuse type of ureteral pain is seen in chronic inflammations of the ureter associated with a chronic cystitis or pyelitis in

which ureteral symptoms predominate. When such an inflammation has subsided there are frequently strictured areas left remaining in the ureters and no pus may be found in the urine. Tuberculosis of the ureter often gives symptoms which overshadow the disease in the kidneys or bladder. Tuberculosis is also very prone to produce strictures of the ureter, in fact, it often produces a narrowing of the entire ureter. Congenital anomalies can produce ureteral pain particularly such conditions as ureteral kinks, ureteral stenosis, with or without dilatation of the ureter, and reduplication of the ureters, either with or without the presence of infection. Sometimes a patient may have had an attack of ureteral colic and passed a stone which may have become imbedded at one of the narrow points in the ureter. If the obstruction is incomplete the patient will have a dull, diffuse type of pain remaining after the acute symptoms subside. Pain may be referred to the lower ureter from the pelvic organs since the innervation of the lower ureter comes from the same segmental area. This is particularly to be suspected if the individual has the appearance of the hypo-ovarian type.

In contrast to the dull, diffuse type of ureteral pain there is the acute, colicky type which is sudden in onset, excruciating in character and is often referred to as renal colic or Dietl's crisis. The pain in these cases is due most often to the passage of a calculus down the ureter, a loose kidney or a kinked ureter with complete obstruction. The difficulty in the acute, colicky cases of ureteral pain is not the diagnosis but the relief of the pain. It is frequently observed that one-quarter grain of morphine gives little relief and that sometimes the patient complains of more pain than he did before. Ureteral colic is one of the most difficult types of pain to relieve which affects the human body. Large doses of atropine have been found to be of distinct aid. Similar clinical results have been observed with H.M.C.'s (Hyoscine, morphine and caffeine) which contains an atropine-like substance, namely, hyoscine.

Previous experimental studies indicate that the severe pain that occurs with ureteral colic is associated with spasm and increased motility of the ureter. Experimentally we have shown that ureteral contractions are also stimulated with morphine. The relief of ureteral pain, therefore, is difficult and does not occur until the cerebrum is sufficiently dulled so that the

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patient no longer appreciates pain. We did some experimental work on patients on which normal tracings of the contractions of the ureters were obtained and then hypodermic injections of morphine and atropine were given<sup>1, 2</sup>. One-sixth, one-quarter, three-eighths and one-half grain of morphine all produce a marked increase, particularly in the tone of the ureter, and to some extent in the contractions. Atropine had some tendency to counteract this effect when given thirty minutes after the morphine but when given together with morphine there was first a short stimulating phase produced by morphine which is quickly absorbed and then a reduction in tone and contractions occurred as the atropine was absorbed.

#### SUMMARY

1. The dull, diffuse type of ureteral pain is often difficult to diagnose and the presence of ureteral pathology must be considered in indefinite cases of abdominal pain where the first thought is often the gall bladder, the appendix or the pelvic organs.

2. Acute ureteral colic is easy to diagnose but difficult to relieve. The failure of morphine alone is due to the increased tone and contractions of the ureter which aggravate the local condition. Atropine partially counteracts this effect. The effectiveness of combinations such as is found in H. M. C.'s (Hyoscine, morphine and caectine) is due in part at least to the presence of atropine-like substance.

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When one reviews the history of medicine and contemplates the character and lives of the distinguished practitioners of the past and present, he realizes that no profession has accomplished more than ours in the promotion of human welfare and in helping to build a race of men and women that will be a credit to our country and maintain a more beneficent influence in promoting the welfare of mankind. We should be proud of our medical inheritance and the fact that we belong to a profession including so many self-sacrificing men and women, whose efforts aim to relieve human suffering and to bring joy and comfort to our fellow men. One neglects his sacred duty if he fails to use every effort to keep abreast of medical progress and to be constantly prepared to meet the exigencies and demands of modern medical practice.—Osler.

## THE ROENTGEN TREATMENT OF PLANTAR WARTS

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There is an old saying, "Tis the little things in life that count"—so often is this true in medical treatment. A patient with a wart on the sole of the foot or on the palmar surface of the hand or a wart around a fingernail can cause considerable worry to a physician if it cannot be taken care of easily and properly. The plantar warts are the most common—they cause a most uncomfortable pain and disability that is out of proportion to the seriousness of the lesion. Pressure is the direct cause of the pain in most of the cases.

Verrucae vulgaris and plantar warts are the same entity occurring on different parts of the body. The warts may be single or multiple—they may vary in size from a pin point to two centimeters in diameter. Supposedly the cause is a filterable virus—it is mildly contagious. The diagnosis is very easy: It is a papillomatous hyperkeratotic lesion arranged in verrucous form surrounded by the hyperkeratotic skin. They are usually situated on the padded portions of the foot but they may be anywhere. The only differential diagnosis is the callous and a trichophyton infection. The first can be differentiated by its diffuse, smooth, yellow color—often the top of the wart can be shaved off and a characteristic translucent area is noted dotted with black spots which are often called the roots. The trichophyton lesion usually covers a greater portion of the foot and usually has fissures and cracks involving it. Scrapings can be easily made and the diagnosis made certain.

As to the methods of treatment irradiation, surgery and fulguration, desiccation and cautery are the ones that are used. The first is our method of choice. It is painless, very effective and the patient is not incapacitated. Treatment of a wart by surgery or cautery often leaves a painful scar that can be relieved if given irradiation. Also, many times after surgery and heat therapy a so-called new crop of warts will develop around the old scar. The most effective way to treat these is by irradiation. The warts on the palmar surface of the hand and around the fingernails are treated by the same methods as on the sole of the foot. The most obstinate and the most

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difficult to treat is the verrucae around the nail. These will respond to irradiation but care must be taken for the sake of the nail. Often these warts will destroy and get under the nail bed and in many instances there is an atrophy caused by them. If removed by surgery or the electric needle the same results are often accomplished but the most satisfactory and less damaging is irradiation. Another interesting true fact is often if one wart is treated adjacent tissue also infested, though not treated directly, will recover. This should be borne in mind when treating around the nail.

Irradiation therapy in plantar warts has not received the popularity it deserves. Let one patient be treated in this manner that has had previous experience with surgery or the electric needle and he will surely be a constant booster for this type of therapy.

Lesions treated by myself have a history of a duration of from one month to several years. The true history of the spontaneous disappearance of a plantar wart is not to my known knowledge.

#### TREATMENT

The lesion is first prepared for treatment by shaving off the keratotic portion of the

wart and it is then that the tiny dark specks are seen. This shaving of the hard portion is to keep it from filtering out the soft rays. A piece of lead foil is punched out the size of the wart—this is strapped onto the foot and a dose of one and one-half to five erythema is given according to the size of the lesion. In

most instances a dose of three erythema is given. Factors are: 88 K.V. P. to 110 K.V.P. Usually no filter but one mm. of aluminum may be used. The focal distance is sixteen inches, M.A. five. Dosage in R's range from 175 to 1800. Time varies, three to fifteen minutes. Broken doses may be used but in my estimation this is not the most satisfactory form of treatment. These doses may be repeated in four to eight weeks is necessary.

What to expect.—The patient usually experiences increased tenderness eight to fourteen days after the treatment especially if considerable normal tissue has been included. This tenderness lasts for only a few days. The wart may fall out from a few weeks to several months but just before it gets ready to fall out there is usually an increased tenderness though the patient is usually free of symptoms during this time. There is one important point and that is the physician should not become impatient. Two patients brought the warts

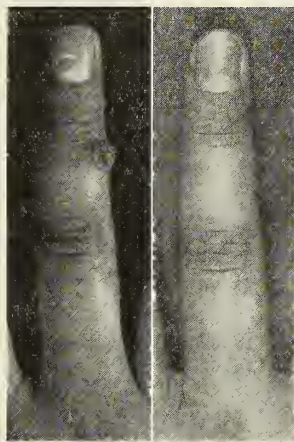


Fig. 2. Verruca digitata before and after irradiation therapy; note, no scarring.

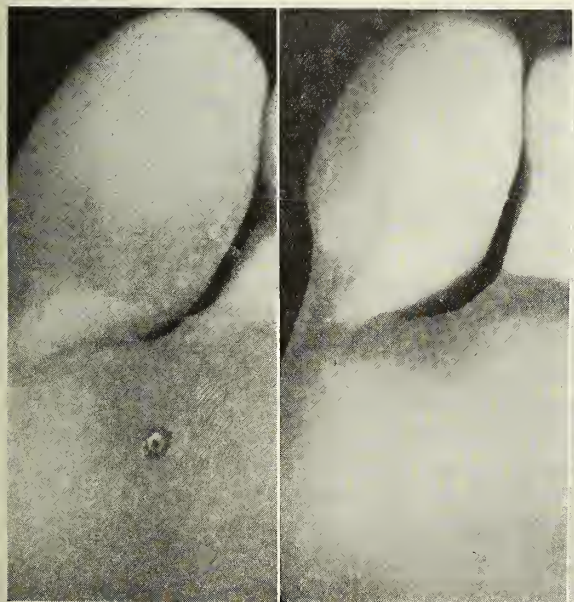


Fig. 1. Plantar wart before and after irradiation therapy.

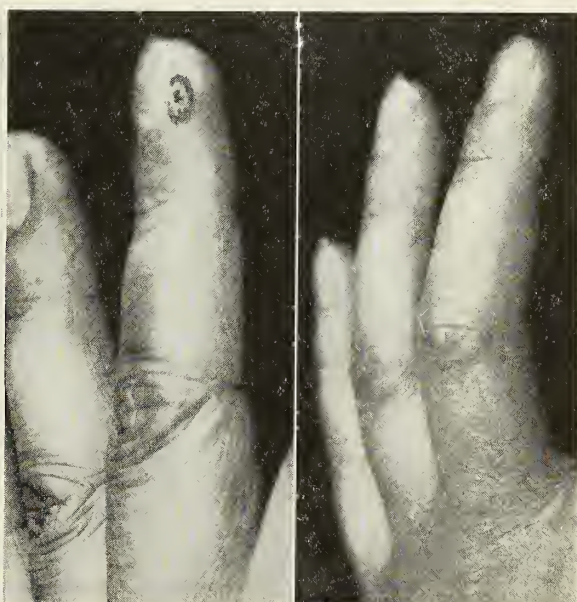


Fig. 3. Verruca vulgaris along the edge of finger nail; before and after irradiation.

back to me and showed them to me. One had long filiform projections.

#### CONCLUSIONS

1. Failure of plantar warts to respond to irradiation has not been my experience. Thirty-two cases have been treated.

2. We feel that it is the method of choice for the treatment of plantar warts.

3. One cannot be impatient. Considerable time is required to get results and the patient should be informed of this.

4. Injections of thiobismol have been used along with the irradiation in a few cases. Its added value is questionable. In a few cases we treated with thiobismol alone and only one showed good results. The others were given irradiation later.

5. Irradiation treatment is practically painless, does not incapacitate the patient and there is no scarring.

#### THE USE AND ABUSE OF THE NON-NARCOTIC SEDATIVES†

RALPH M. FELLOWS, M.D.\*

Osawatomie, Kansas

The use of sedatives in the treatment of disease is widespread and not confined alone to neuropsychiatric practice. There is hardly a medical or surgical condition in which at some time or another during the course of the illness, sedatives of one type or another are not employed. Pharmacists report that with the exception of various types of cathartics and of aspirin, more preparations containing some form of sedative are dispensed or purchased than any other type of medication. In medical and surgical conditions sedatives are used to procure rest and relaxation, to abate apprehensiveness, to secure sleep, and even occasionally to restrain the patient. Sedatives, though bringing about the above conditions, quite often protect the patient from exhaustion, so that actually curative measures can be brought into use, through which the patient may be restored to health.

It is generally recognized that sedatives are employed in medical and surgical practice to treat conditions which are actually symptoms of the various diseases encountered, and that

they are not employed to treat the disease itself. Sedatives are employed simply as adjuncts to the treatment, during the period when the underlying cause of the illness is being investigated and attacked. Sedatives themselves do not cure a case of pneumonia, typhoid fever, or tuberculosis, nor do they cure any neuropsychiatric condition, i. e., psychoneurosis or psychosis. They are adjuncts, as well, to the treatment of neuropsychiatric conditions, and they are employed in such conditions while the underlying cause can be discovered and attacked.

The non-narcotic sedatives most commonly used are of three types: (1) Barbiturates, their derivatives, and various combinations; (2) bromides, their various forms and combinations; and (3) paraldehyde.

#### BARBITURATES

Within the last few years a number of barbituric acid derivatives have been synthesized and examined pharmacologically<sup>1</sup>. Many of these which showed promise as sedatives have been introduced into the practice of medicine, some have been retained, and a few have become quite popular. The first member was veronal or barbital. Since its introduction the various barbiturate derivatives introduced and exploited by pharmaceutical houses have been almost innumerable. The more common commercial preparations used are luminal or phenobarbital, amytal and sodium amytal, dial, ipral, neonal, nembutal, allonal, phanodorm, nostal, pento barbital, and medinal. All of these drugs can be administered by mouth, some subcutaneously, and some intravenously. With some slight difference as to the individual preparation, the action of all these compounds is essentially the same. Various physicians feel that they can obtain different results through the use of the different preparations; in fact practically every physician has a favorite drug in this group which he employs more extensively than he does others. The essential point in the use of these many preparations is for the physician to select one or two such drugs which he has found to be easily available, economical, and efficacious.

Much is still to be learned concerning the manifestations of the idiosyncrasies and overdosage of the newer compounds,<sup>1</sup> but there is no reason to believe that these manifestations differ markedly from those in the drugs that have been in use longer. Most of the toxic

†Read at the Southeast Kansas Medical Society on June 23, 1936, at Independence, Kansas.

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signs and symptoms experienced and described with the earlier compounds have been experienced and described with those more recently introduced. The occurrence of habit formations with the newer types of preparations, for example sodium amytal, is just as common as it was with the older types, such as veronal. Experience shows, too, that tolerance can be built up for the newer forms of barbiturate just as tolerance can be built up from the prolonged use of the older forms.

Barbiturates are excreted in the urine in varying amounts, only traces being found in the feces. Approximately ninety per cent can be eliminated in this way after small repeated doses, but after the administration of large amounts the percentage so excreted markedly decreases, from fifty per cent or sixty per cent of the amount administered. Elimination after large dosage is slow and may extend in certain cases over a period of from ten to twelve days.

Symptoms and signs of toxicity from overdosage or intolerance to barbiturates are protean in their manifestations.<sup>2</sup> They may simulate those commonly seen in any medical or neurological disease entity. There are symptoms directly referable to the central nervous system including ataxia, nystagmus, diplopia, diminution or increase in reflexes, retention of urine or feces, loss of sphincter control, stiff neck, stupor, coma, and occasionally respiratory failure. There are symptoms not known to be directly referable to central nervous system including vomiting, abdominal distention, elevation or fall of temperature, decreased metabolic rate, fall in blood pressure, changes in rate and character of pulse, anemia, acidosis, and pulmonary edema. While coma is probably the first condition thought of in connection with overdosage of the barbiturates, it is by no means the most common symptom or complication. A toxic rash is encountered not infrequently as a symptom of intolerance or overdosage, and it may simulate almost any known rash<sup>2 3</sup> for example secondary syphilis, purpura, and various forms of pityriasis. It often has the appearance of the rashes seen in the acute exanthemata. When this rash resembles one of the exanthemata and is accompanied by fever, as it quite often is, it offers an interesting diagnostic problem. When an otherwise unexplainable rash is encountered, it is always well to ascertain whether or not a barbiturate has been taken by the patient.

When coma does occur from barbiturate

poisoning, it has no specific pathognomonic characteristic that differentiates it from the coma due to other conditions,<sup>2</sup> unless, of course, a history can be established that the patient has taken barbiturates.

Not infrequently a condition of delirium or actual toxic psychosis occurs, apparently due entirely to overdosage or intolerance.<sup>2</sup> This condition has no constant distinctive feature to differentiate it from the deliria accompanying other intoxications.

The treatment of poisoning from barbiturates does not depart essentially from the treatment for poisoning from other drugs. It consists primarily of elimination and stimulation. The bowels should be emptied by enemas and purgatives. Fluids by mouth, by rectum, subcutaneously, or intravenously should be forced, to assist in elimination through the kidneys. Strychnine, because of its antagonistic action to the barbiturates, should be given hypodermically. Strong coffee and whisky may be given rectally. Caffeine sodium benzoate in seven and one-half grain dosage should be given intramuscularly; intravenously, even, if the seriousness of the condition warrants it. Coramine,<sup>4</sup> a cardiorespiratory stimulant, is considered by some to be a specific against barbiturate poisoning. It should be kept where it is easily available whenever barbiturates are used in any quantities, whenever there is any possibility that a case of barbiturate poisoning may be encountered.

For some time it has been the practice of this clinic to give liver extract one cc. intramuscularly one to three times weekly to patients to whom any of the barbiturates are being administered. When barbiturate toxicity is encountered, larger doses of liver extract are routinely given. This treatment by liver extract is somewhat empirical, but it has at least a theoretically sound rationale for its use.<sup>5</sup> Malonyl urea, more commonly known as barbituric acid, is a pyrimidine derivative.<sup>2</sup> The pyrimidines are products developed in metabolism of the proteins, which are metabolized to a great extent by the liver. While it has not been proved that liver extract stimulates the action of the liver, there is some justification for the belief that it does have some effect upon the metabolic activities of the liver, especially in reference to its action upon protein metabolism. It is thought that possibly liver extract, in an action upon the liver as yet un-

explainable, does hasten the destruction or possibly the elimination of the barbiturates, thereby preventing barbiturate intoxication or contributing therapeutically to the treatment of such a condition once it develops.

#### BROMIDES

The bromides have had a variety of uses, but they have been supplanted to a great extent by the widely prevalent usage of barbiturates. Even in the treatment of convulsive disorders the use of bromide has been superseded to a considerable extent by barbiturates, especially phenobarbital. Bromides are used quite often when patients cannot tolerate the barbiturates. Some of the more common manifestations of toxicity, either from overdosage or intolerance, are rash, gastrointestinal disturbances, and ataxia. The rash is more characteristic and not nearly so protean in its appearance as is the rash from the barbiturates. It is seldom accompanied by fever and it usually appears on the face, especially the forehead, the neck, shoulders, and back. It is commonly acneform in appearance.

Bromide intoxication encountered in the form of a delirium or toxic psychosis is not infrequently seen.<sup>6</sup>

Fortunately we have a method by which the bromide content of the blood can accurately be estimated. Except in those sensitive to bromides, the blood bromide is ordinarily found to be elevated in the presence of symptoms from bromide intoxication.<sup>7</sup> While there is no absolute normal for the blood bromide content, symptoms of intoxication quite commonly are found to accompany blood bromide above 80 to 120 mgm. per cmm. of blood.<sup>8, 9</sup> However, some people do not develop symptoms of intoxication when the bromide content of the blood is as high as 400 to 500 mgm. per cmm.

The administration of sodium chloride is practically a specific in the treatment of bromide poisoning. Sodium chloride may be given by mouth, two drams in water three times a day, or in emergencies intravenously as well. Spinal drainage through lumbar puncture has been recommended while sodium chloride is being given by mouth or intravenously. The efficacy of sodium chloride in the treatment of bromide intoxication is due to the chloride radical replacing the bromide radical in the blood.

#### PARALDEHYDE

Paraldehyde is probably the safest of all sed-

atives.<sup>10</sup> Large quantities can be given without any toxic effects. Its use is somewhat curtailed because of its intensely disagreeable odor and taste. It is the sedative of choice in acute alcoholism. Alcoholic patients do not usually object to taking it by mouth, apparently because of its somewhat alcohol-like taste, and because of its occasional alcohol-like reaction. A very satisfactory treatment of acute alcoholism, especially where there is nausea and vomiting, is to wash out the stomach thoroughly through a nasal tube, then to place in the stomach through the tube before it is withdrawn from three to six drams of paraldehyde.

Paraldehyde is a very good sedative to employ in the aged, because it does not affect the heart, even in large doses and because it does not result in the excitement that even moderately small doses of barbiturate occasionally do in the aged.

Paraldehyde is not infrequently given rectally. Whalen,<sup>11</sup> in a personal communication to the author, advocates the administration intramuscularly of paraldehyde. He gives twenty to thirty cc. into the gluteal muscle. He states that no ill effects have been encountered in at least 300 administrations and that the sedative effect is prolonged from one to three hours longer than when given by mouth.

#### SEDATIVE OR NARCOSIS THERAPY

Occasionally for various neuropsychiatric conditions a state of sleep or semi-stupor is induced in a patient and maintained for varying lengths of time.<sup>12, 13, 14</sup> The duration of such treatment usually extends from one to two days up to ten days or two weeks. It is necessary to give sufficient medication during the entire length of such treatment to maintain the desired sedation or narcosis. Various sedatives have been used for this procedure. Some form of the barbiturates is the drug ordinarily used. The most common method of administration of whatever form of barbiturate is employed is by mouth or intravenously, less commonly intramuscularly or rectally.

Sodium amylal has been used extensively for this type of treatment.<sup>15</sup> It is usually given intravenously in sufficient quantities and at sufficiently frequent intervals to maintain the desired sedation. The same disadvantages and hazards attend the administration of sodium amylal intravenously that attend the intra-



venous injection of any other substance. It is necessary for a physician, not a nurse, to give the drug intravenously. It is difficult to regulate the dosage of sodium amytal intravenously because of the danger of giving too much of the drug, with its consequent rapidly disastrous action when too large amounts are given, especially to a patient who is sensitive to the barbiturates.

Recently a mixture of barbiturates which seem to have a synergetic action has been introduced and used.<sup>16</sup> It is administered by mouth. This mixture—one and one-half grains of sodium luminal with five grains of sodium barbital in any satisfactory vehicle, for example distilled water or elixir of lactated pepsin—is thought to offer certain advantages over other barbiturate derivatives more commonly used, especially those that are given intravenously. This mixture seems to have the same beneficial effect that other barbiturates do. It can be given by mouth which precludes many disadvantages and hazards incident to intravenous injections. It can be given by a nurse. The dosage can be more easily regulated and controlled; for example, the patient can be given even six to eight small doses of such a mixture by mouth in the course of twenty-four hours without the disadvantages incident to giving several intravenous doses of other preparations. It is more economical than some of the other preparations.

The disadvantages encountered in the use of this drug are much the same as those met with in the use of any barbiturate. The same precautions used in the administration of this preparation to prevent toxicity and to combat it when it is encountered should be used as in any other form of barbiturate. Certain precautions should be carried out as routine when a patient is subjected to a sedative or narcosis treatment to prevent toxicity. It should first be determined whether the patient is sensitive to barbiturates. Once the treatment is started the patient should have sufficient caloric requirements supplied; fluid intake (for an adult of normal size at least 3,000 to 4,000 cc. in twenty-four hours) should be given either by mouth, subcutaneously, or intravenously. This is especially indicated because so much of the drug is eliminated through the kidneys. Complete blood count and hemoglobin determinations should be made at regular intervals and measures taken as indicated to combat the anemia that occasionally arises. Kidney

function tests should be made at frequent intervals and the drug stopped at once should any impairment in the kidney function be found. The patient should be given sufficient alkali to combat acidosis, which quite often arises. Thyroid should be given to counteract the lowered basal metabolism that often accompanies prolonged sedation.<sup>2</sup> The drug should be stopped immediately, whether the desired effect has been obtained or not, should any of the symptoms referable to the central nervous system appear and persist, such as nystagmus, diplopia, persistent loss of sphincter control, and loss of reflexes. The drug should be stopped immediately if marked cyanosis appears. Should the least sign of pulmonary edema appear the drug should be discontinued at once, and measures to combat toxicity should be employed immediately, since death from barbiturate poisoning quite often occurs through pulmonary edema.<sup>2</sup>

#### SUMMARY

1. The use of non-narcotic sedatives in the practice of medicine is widespread and not confined to neuropsychiatric conditions.

2. Sedatives are used primarily to treat the symptoms of the illnesses for which they are employed and not the disease entity itself.

3. The use of the three most commonly employed non-narcotic sedatives, their derivatives and combinations, is discussed, as well as some of the signs and symptoms of toxicity from these drugs with the measures used to combat these conditions when they arise.

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## PRESIDENT'S PAGE

To the Members of The Kansas Medical Society:

The practice of medicine is not the private property of physicians, but belongs to society. The ideal before the medical profession, toward which every physician strives, is the elimination of disease. Society has benefited by the devotion and sacrifice of individual physicians in every new medical discovery and invention: vaccination for the prevention of smallpox, diphtheria antitoxin, the discovery of the role of the mosquito in malaria and yellow fever, control of water supply and the prevention of typhoid, the immunization against and the prevention of many other diseases.

The continuity of medical advancement depends upon the sustained and aggressive effort toward our professional ideal. The future of medicine could be changed and progress greatly retarded by ill advised legislation, our leadership broken, scientific incentives and social aims thwarted, the training of young physicians interfered with, and tensions developed which would result in disorganization. There are examples of this in the Fascist nations of Europe, where the professional man has entirely lost his status as an individual in a special field and is reduced to the position of a poorly paid, defeated worker under the control of a political bureaucracy.

In our opposition to adverse legislation the physicians of Kansas and those throughout the nation are determined that the individuality and leadership of the profession shall be maintained. Fully cognizant of their responsibility to society, our leaders are constantly working for better organization and distribution of medical service. In a time of confusion of tongues let us keep our ideal clearly before us, with renewed zeal for the established values in the practice of medicine.

Think on these things and use your right of franchise with intelligence.

H. L. Snyder, President.



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## EDITORIAL

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### CERTIFICATION OF SPECIALISTS

The advance in the practice of medicine, as in the application of other social sciences, is a gradual unfolding. Science discovers, philosophy divides and defines, knowledge accumulates and is applied to social needs. Increasing knowledge and technology and the rising standard of medical education has resulted in the development of specialism. This has led to associations composed of those who are practicing in the specialties of medicine. These associations have required special qualifications of their members which has brought about improved methods of training. Recently a new milestone has appeared upon the path of medical progress. From the associations of specialists there has developed the demand for the formal certification by a Board of Examiners of those who wish to qualify for practice in a particular branch of medicine.

Plans are now being considered for the certification of surgeons by a joint Committee of the American Medical Association and the American College of Surgeons. According to an editorial in the September issue of the *Journal of the Iowa State Medical Society*, internists are also preparing to put into action a well thought out plan for the examination and certification of internists. This is to be followed by a similar program for the more restricted specialties of gastroenterology, cardiology, metabolic diseases, tuberculosis, allergic diseases, et cetera. This is to be done through the facility of the American Board of Internal Medicine, the organization of which was completed last June, with the selection of Walter L. Bierring, M. D. of Des Moines, as chairman, J. C. Meakins, M. D., of Montreal, vice-chairman, and O. H. P. Pepper, M. D., of Philadelphia, as secretary-treasurer. The Board is composed of nine members, being selected from the American College of Physicians and the section

on the Practice of Medicine of the American Medical Association.

The Board is now preparing a handbook covering all of the essential details which may be required of the candidate, indicating the scope of the examination and giving such further information as may assist him in qualifying before the Board. The chairman of the Board, Walter L. Bierring, M. D., 406 Sixth Avenue, Des Moines, Iowa, may be addressed for full details and a copy of the handbook.

The movement to certify specialists has originated in the minds of men who would themselves be subjected to the special requirements and regulations of a Board of Examiners. The primary motive of these men is to meet the increasing demands for better organization in the specialties. By raising the standard of consulting specialists the standard of each individual physician is raised, the public is safeguarded, and the social strength of the medical profession is increased.

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### REPORT OF A CASE

These columns seldom carry a case report. However, here is one. At first we debated whether to present it here or back in *Immateria Medica*. But it isn't funny; it's sad, and serious. It obviously did not belong with regular case reports because of its peculiar nature. In the first place, nobody cares about the case—except perhaps his mother and Uncle Sam. And finally, it contributes nothing to medical science. It may contribute something to political science.

One of our members whose veracity is beyond question reports the following case:

A strong, physically capable man, aged 37, complained of pain and soreness just to the left of the sternum over the precordium. The pain had not been there prior to the last few months, but was becoming more annoying. It bore no relation to meals, never awakened him at night, and there was no history of exertion. There was no impairment of any former potentialities. Family history, utterly

unimportant. Personal history, inconsequential. Past history, negative except that he was able to work only when under a boss' nose, but usually managed to be on a payroll. Physical examination: A ruddy, very well-nourished man of the above-mentioned age, resting quietly in the most comfortable chair in the office, obviously not suffering acutely. He demonstrated the painful area on his chest by pointing with his right hand. The small area was fairly well delineated. Inspection, negative. He claimed it hurt when pressed upon. Pressure atrophy had not set in.

Our colleague performed thorough physical and laboratory examinations and carefully weighed the history. By the way, we have failed to mention the patient's occupation: W.P.A. "worker." And there is the clew. The painful area is the same distance from the ground that a shovel is long! Diagnosis (attention, industrial surgeons): osteochondralgia secondary to constant leaning on a shovel. Prognosis: that funnel-breastedness or a return of the old cobbler's deformity will show a high incidence in the next few years unless the people do something about it.—Colorado Medicine, September, 1936.

### INSURANCE MEDICAL DIRECTORIES

That Arkansas has been the pioneer state in a recent movement to suppress commercial medical directories is shown by the following article from their state medical journal:

"The attention of all members is called to the following resolution adopted by the Society at the Hot Springs meeting April 29:

'WHEREAS, certain commercial interests are publishing medical directories, listing physicians by specialty and otherwise, as available for insurance and compensation work, and other professional services, and

WHEREAS, participation by listing in these lay publications merely serves for

the profit of the promoters, and is furthermore technically indirect solicitation of patients.

THEREFORE, BE IT RESOLVED, That the Arkansas Medical Society condemns these practices as unethical and forbids its members to continue listing their names in such directories, and

BE IT FURTHER RESOLVED, That the Arkansas Medical Society requests the House of Delegates of the American Medical Association to take similar action.'

"The resolution was presented to the House of Delegates of the American Medical Association and referred to the Judicial Council for study. The Judicial Council approved the resolution and recommended its adoption, which the House of Delegates did at the session of May 14, 1936.

"The attention of our members has been previously called to the activities of these directory publishers. As is often the case, individual physicians felt that they might incur a loss if they removed their names from such directories while other members retained their listing. With this thought in mind, the above resolution has been adopted. The practice of so listing is declared unethical; no individual member may now feel that should he remove his name that another physician will accept that listing. The benefit is direct to these physicians in the fees saved; the loss is entirely the promoters.

"Some idea of the financial gains involved in the publication of these directories may be understood when we state that one directory now on our desk contains the names of approximately 5,000 physicians. Ninety-two Arkansas physicians are listed in the three directories available to The Journal. The fee charged for listing in this one directory is \$15.00 per annum. A liberal estimate of



the cost of publication and distribution is \$15,000. The balance, \$60,000, is presumably divided between the promoter and his solicitors. Verily, a most altruistic motive prompts the publication."

### GUARANTEED SERVICE

We wonder where any Kansas physician can be found who will cooperate with the suggestion made in the guarantee offered below:

"Any person coming to the Brinkley Hospital, Del Rio, Texas, during the months of June, July and August, 1936, and paying \$250.00 in cash for our medical prostate treatment, it is guaranteed that should in the future the prostate become infected or need another treatment, the same will be repeated by us once free of charge at our hospital; or if not convenient for the patient to return to our hospital, the treatment will be sent to the patient at his home without charge *to be administered by his family physician*.\* When the second medical treatment is sent or given, the guarantee is fulfilled in all respects.

The Brinkley Hospital.

\*Italics ours.

### BLOOD PRESSURE

The following editorial describing a new medical racket appeared in the September 1936 issue of the New York State Journal of Medicine:

#### "A Sanguinary Conflict

"'READ YOUR OWN BLOOD PRESSURE, 10c,' was the large sign in front of a device at Coney Island, which has become the storm center of a legal battle. The State Department of Education has asked the Supreme Court to order this and other machines of the kind out of existence on the ground that their operation violates the State Medical Practice Act. Taking a blood pressure is argued to be a diagnosis of a physical condition, and should not be done except by a physician. The maker of the machines has countered by filing

an injunction to prevent interference with his business, and the matter will be fought out in the courts.

"On August 12 an operator of one of the machines was arrested on a charge of practicing medicine without a license, and will soon be brought to trial. Any comment here on his guilt or innocence of this offense before the verdict would be in contempt of court, and the next issue of this department might have to be written in the calaboose, so nothing had better be said, perhaps, on that point.

"It would be easy to magnify the danger of this blood-pressure device out of all true proportion. Probably nobody with arteriosclerosis is going to burst a blood-vessel when he sees the pointer climb to some high figure on the dial. At the same time we all know that such a casual sidewalk reading is more likely to be wrong than right. The poor dupe who pays his dime may easily be so fidgety that he will show a higher pressure than he normally has. Every doctor knows the excitable type of patient who has to be calmed down and put at his ease before taking the reading, or it will be too high. A leading Boston internist is quoted as saying that he takes three rapid readings in succession in all cases and accepts the lowest systolic and diastolic as the fairest.

"The Coney Island device came up in a conversation at the New York Academy of Medicine a few days ago and a well-known physician said it reminded him of an experience related by Heywood Broun, the columnist. It seems that Broun was having a physical examination, and noticed a slight lift in the doctor's eyebrow as he took his blood-pressure. 'What's wrong, doctor?' 'Oh, nothing.' 'Why did you lift your eyebrow?' 'Well, your blood-pressure is just a little low, but not enough to bother about.'

"Nevertheless, it did worry him, and a few days later he decided to have another doctor go over him. Again, as he was taking the blood-pressure, the physician's eyebrow arched a trifle. 'What's wrong doctor?' 'Oh, nothing.' 'Why did you lift your eyebrow?' 'Well, your

blood-pressure is just a little high, but not enough to bother about.' The worry had done it. The fact is, of course, that the arterial tension is so fickle an affair that a device like the one at Coney is worst than useless. To take a test after chuting the chutes, bumping the bumps, riding the merry-go-round, and filling up with hot-dogs and peanuts is like counting the pulse after a foot-race. But to get all steamed up over the imaginary perils of the machine is equally too feverish. If some folks are scared into consulting a doctor, they may get a real examination and advice that will do them good. Too drastic action may be like firing a cannon at a flea."

The Society has also received during the past week the following communication from a prominent manufacturer of blood pressure instruments which is also of particular interest in this regard:

"The old-fashioned medicine man is slowly disappearing from sideshows and county fairs but today a new charlatan is taking his place at beach resorts, fairs and amusement parks. Equipped with a white coat, a stethoscope and a bloodpressure instrument, these operators are capitalizing on the public's interest in blood-pressure. Their main concern is collecting the ten or fifteen cents they charge per 'patient'.

"It is evident that bloodpressure readings taken by such persons under such circumstances are of no value. The 'patient' is simply being bilked but the most harmful part of this practice is the serious consequences that may easily result in some cases regardless of whether the information is erroneous or otherwise.

"We are vigorously opposed to this misuse of medico-scientific instruments, having gone on record with the American Medical Association to this effect a year ago. Moreover, we have refused to fill large orders for ..... to be used for such purposes.

"This evil practice should be stopped and we would appreciate your cooperation in reporting to us any instance that comes to your attention—especially where some definite harm has resulted to a patient."

## MEDICAL SCHOOL CLINIC

### AUGMENTED PRESSURE IN TRANSFUSION OF INFANTS\*

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Technical difficulties in transfusing infants have no doubt interfered with the utilization of a therapeutic procedure which was clearly indicated and necessary. Obviously a smaller needle must be used in entering the vein; the operator must have in mind the preservation of the identity of the vessel in case succeeding transfusions are necessary. It has not been an uncommon experience heretofore that the administration of a sufficient amount of blood to an infant was a tedious procedure, one that tended to promote clotting and obstruction due to the slow flow of the blood. It should not take hours to transfuse even a small superficial vein, which in certain infants may be the only accessible one. When there are to be serial transfusions it is not desirable and seldom necessary to cut down upon the vein. We have never found it indicated.

The problem as it appeared to us in the beginning was to devise a method of supplying augmented pressure to the column of citrated blood so that there would be a continuous flow and no complications or difficulties arising.

#### TECHNIC

The infant is typed and cross-matched with the blood of a parent, or if unsuitable, of another relative. Occasionally it will be necessary to secure a donor elsewhere than in the family.

After the collection and citration of the blood in the cylinder, the top is at once fitted with the special hard rubber stopper, the other parts are attached and the apparatus is ready for use.

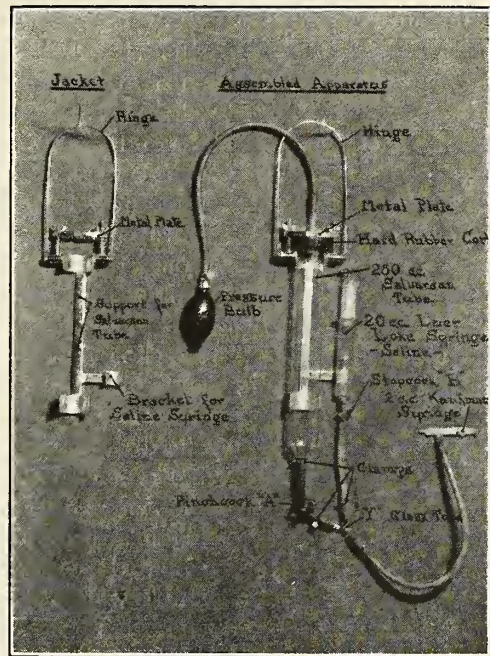
Start the salt solution to replace the air in the rubber tubing from stop cock (B) to the Kaufman syringe. Remove the pinch cock (A) which allows the blood to flow down from the

\*From the exhibit of the School of Medicine, University of Kansas, Department of Pediatrics, eighty-seventh annual session of the American Medical Association, Kansas City, May 11-15, 1936.



cylinder and mix with the salt solution at the Y-glass tube. The stop cock for the salt solution is then closed. The needle is now inserted into the vein and the salt solution enters. As soon as the patient's blood mingles with the salt solution in the springe it is evident that the vein has been successfully entered. Gravity alone will already be slowly delivering blood through the needle but it will be greatly augmented by air pressure from the rubber bulb, communicating with the space in the cylinder above the column of blood. Care is taken to use no more pressure than is necessary. As a matter of academic interest we found that suitable pressure is around 230 to 270 mm. (mercury) which can be obtained by one or two compressions of the bulb at one-half minute intervals, during which there will be a steady flow from the cylinder. Screw clamps have been devised for the rubber-glass connections to prevent blowing out at such joints. With experience and care this does not happen.

and stored in a sterile condition ready for subsequent use.



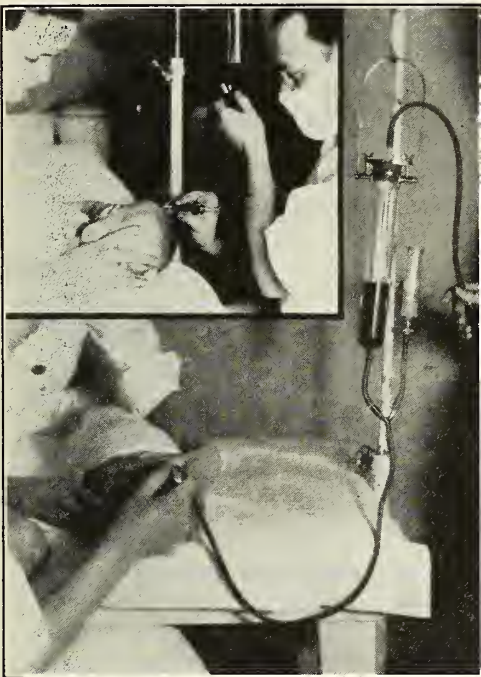
Assembled Apparatus

#### FEATURES OF THIS METHOD

The blood flows directly from the vein of the donor into the negative pressure of the transfusion cylinder, which has previously had sufficient amount of two per cent citrate solution placed therein. This obviates the use of a preliminary container and minimizes any possibility of contamination. Negative pressure is obtained in the usual way by a special hard rubber stopper perforated by two glass canulae attached to rubber tubes, one leading to the donor's vein, the other containing a cotton trap and leading to the mouth of the operator for suction.

If the infant's vein is small such as usually found on the scalp, the needle should be of twenty-five gauge, and one inch in length. For a larger vein one may select a needle from twenty-four up to twenty gauge. We have used all of the veins listed below during our experience with this apparatus. An operator will probably develop a preference for some one vein because of skill in entering that particular one. We make the following suggestions from which an accessible vessel will practically always be secured:

Scalp—posterior auricular or temporal.  
Longitudinal sinus will only be used



Transfusion Into a Scalp Vein

The end point of the transfusion is reached soon after the Y-glass tube becomes empty. If desired the transfusion can then be discontinued but if it is deemed advisable the ten c.c. of blood remaining in the distal part of the rubber tube may all be utilized. Following a transfusion the set is cleaned with distilled water, autoclaved

## TRANSFUSION OF INFANTS LISTED IN ORDER OF AGE

Some of the infants recorded below received a series of transfusions during the progress of their illness. The age given represents the day of the first transfusion.

Case	Age	Amount in C.C.	Site	Diagnosis
1	2 days	50	Long. sinus	Primary disseminated pneumonia
2	2-3 days	50-75	Scalp	Prematurity
3	Premature	50	"	"
	30 days			
4	13 days	75	"	Erysipelas
		60	"	"
		60	"	"
5	13 days	60	Jugular	Carbon monoxide poisoning
6	16 days	100	Scalp	Congenital syphilis
		100	"	
7	19 days	60	"	Otitis media, Septicemia
		50	"	
8	6 weeks	40	"	Starvation
9	6 weeks	60	"	Starvation
10	6 weeks	100	"	Bronchopneumonia, gastroenteritis,
		100	"	peritonitis
11	7 weeks	80	"	Erythroblastosis foetalis
12	2 months	75	"	Congenital syphilis
13	2 "	65	"	Congenital syphilis
14	2 "	75	"	Congenital syphilis
15	2 "	65	"	Secondary anemia—harelip
		55	"	
16	2 "	75	"	Congenital syphilis
17	2½ "	75	"	Marasmus, diarrhea
		65	"	
		85	"	
		65	"	
18	3 "	140	"	Congenital syphilis, secondary anemia
19	3 months	50	"	Bronchopneumonia
20	3 months	100	Jugular	Marasmus
21	3 months	85	Scalp	Congenital syphilis, secondary anemia
		85	"	
22	4 "	125	"	Bronchopneumonia, diarrhea
		70	"	
23	4 "	100	"	Erythroblastic anemia
24	4 "	60	"	Otitis media, marasmus, diarrhea
		80	"	thrush
25	6 "	100	Jugular	Marasmus
26	7 "	150	"	Marasmus
		275	"	
27	7 "	150	"	Chronic sinusitis, chronic otitis media
28	8 "	100	Scalp	Nutritional anemia
29	8 "	125	"	Nutritional anemia
30	8 "	100	"	Nutritional anemia
31	9 "	175	"	Secondary anemia
		130	"	
		160	"	
		100	"	



Case	Age	Amount in C.C.	Site	Diagnosis
32	9 "	100	Jugular	Erythroblastic anemia
33	10 "	150	Scalp	Anemia, due to hemorrhage (hemangioma)
34	10 "	100	Jugular	Nutritional anemia
35	12 "	95	"	von Jacksch's anemia
		110	"	
36	12 "	150	"	Malaria
37	12 "	100	"	Nutritional anemia
38	12 "	125	"	Cervical lymphadenitis
		100	"	(infectious)
		125	"	
39	12 months	100	"	Nutritional anemia
40	14 months	150	"	Secondary anemia
		150	"	
41	15 "	100	"	Erysipelas
		100	"	Pyelitis
		120	"	
42	15 "	150	"	Septicemia
		160	"	Chronic sinusitis
43	18 "	100	"	Nutritional anemia
44	18 "	75	Arm	Bronchopleural fistula
		100	"	
		125	"	
		100	"	
45	20 "	150	Jugular	Cervical adenitis,
		120	"	septicemia, meningitis
46	22 "	150	Arm	Rat bite fever
		150	"	
		175	"	
47	24 "	150	Jugular	Otitis media, sinusitis
48	24 "	250	Arm	Sickle cell anemia
49	24 "	125	Jugular	Lead poisoning, secondary
		150	"	anemia
		100	"	

when it is found impossible to enter a superficial vein. Caution should be observed in the amount of pressure used, if the sinus be selected.

External jugular.

Elbow—medium basilic, medium cephalic, or branches.

Wrist—or back of hand.

Groin—femoral.

Ankle—branch of saphenous.

Any other superficial vein which can be entered with a needle of twenty-five gauge or larger.

It is desirable to select a vein remote from the inflammatory site in cases of infantile erysipelas.

Time required: Large vein—jugular—twenty gauge needle, ten c.c. per minute

by gravity, thirty c.c. per minute by augmented pressure.

Small vein—scalp—twenty-five gauge needle, three c.c. per minute by gravity, ten c.c. per minute by augmented pressure.

Elevation of the base of the cylinder is thirty-six inches from the bed or table.

Minimum and maximum quantities transfused by this apparatus: 25 c.c.—250 c.c.

#### SUMMARY

A harmless febrile reaction occurred in two instances, among the eighty-one consecutive transfusions. The total number of transfusions, the vein used, the minimal and maximal amount of blood injected are summarized according to age group.

1st month	17	Scalp	15	50-100 c.c.
		Jugular	1	
		L. Sinus	1	
2nd month	5	Scalp	5	50-100 c.c.
3rd month	10	Scalp	9	50-140 c.c.
		Jugular	1	
4 to 6 mos.	6	Scalp	5	60-125 c.c.
		Jugular	1	
7 to 9 mos.	11	Scalp	7	100-275 c.c.
		Jugular	4	
10 to 12 mos.	10	Scalp	1	95-150 c.c.
		Jugular	9	
13 to 18 mos.	12	Jugular	8	75-160 c.c.
		Arm	4	
19 to 24 mos.	10	Jugular	6	100-250 c.c.
		Arm	4	

The authors have developed this apparatus during a period of two years' continuous use. One of our objects is to utilize parts which can at once be replaced in any hospital or city and in most small towns. The portion which originated with us and which has gone through evolution in the process of refinement is the frame or jacket which rigidly supports the cylinder, the side syringe for the salt solution, the air-tight fastening at the top of the cylinder. We have also devised the metal clamps at the rubber-glass connections.

This method has greatly simplified the transfusion of infants and has been so much of a time-saver that numerous transfusions during a day do not disrupt the other work in the children's wards.

We have found this set to be very useful in the administration of glucose, salt solution, arsenicals, as well as many other medications and dyes for visualization tests.

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## TUBERCULOSIS ABSTRACTS

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### WHEN SHOULD REFILLS BE STOPPED?

Relapses after the completion of pneumothorax treatment are much more dangerous than was the original lesion before treatment commenced because only a very small percentage of cases can get effective pneumothorax in a succeeding attempt, due to the new pleural adhesions formed after the lung re-expands.

The longer the treatment has lasted the fewer are the relapses after re-expansion. Dufault and Laroche found the cure was maintained in 46.2

per cent of cases successfully collapsed for less than three years, whereas in patients successfully collapsed for more than three years the cure was maintained in 84.6 per cent.

In carrying out pneumothorax treatment, the author attempts to follow a definite routine. After the degree of collapse has been obtained that is required to obliterate all excavation and that is considered necessary for a satisfactory splinting of the whole lesion, and as soon as symptoms of activity have disappeared, a very slow and gradual re-expansion of the lung is allowed. If one is dealing with a case having infiltration and excavation in one upper third, and if an eighty per cent collapse must be made of this upper third before it is satisfactory, it may be found necessary to maintain this degree of collapse for a period of one year. At the end of the second year a gradual re-expansion may find a collapse of fifty per cent. It is during the latter part of the third year and during the fourth year, when re-expansion of the same upper third now finds only a collapse of ten to twenty per cent before refill, that special care is necessary. It is while the treatment is at this stage that several factors have to be weighed.

### EXTENT OF ORIGINAL LESION

The extent and nature of the original lesion is probably the most important factor in making our decision as to when we should stop treatment. The smaller the original lesion, the more confidence one can feel regarding expansion. Where there has been a large area of excavation originally, one usually finds that a considerable period has been taken up on obtaining a complete collapse, and a further long period has followed before the sputum has remained negative for tubercle bacilli. A period of three years with negative sputum has now probably brought the treatment into the fifth year. Cases like this may have had so much original lung destruction that a phrenicectomy or one or more stages of thoracoplasty may be necessary to complete the obliteration of the pleural cavity. Cases in this group which have continued to have intermittent positive sputa ought to have their treatment continued indefinitely. Some of these cases may have been three years negative, but still show little, if any, signs of re-expansion. If these latter cases refuse the surgery necessary to close the pleural space, it might be a supererogation to continue refills except at very long intervals—that is, if



the mediastinum is fixed. However, if the mediastinum is not fixed, a shorter refill interval should be necessary to keep it in position.

#### X-RAYS DURING RE-EXPANSION

The most important change to look for roentgenographically in lung re-expansion is a reappearance of excavation, for such an occurrence warrants an immediate reversal of treatment, with closure of the cavity. Thickening of the pleura often obscures a considerable amount of lung detail. Usually, a radiograph of a ninety per cent re-expansion lung in the fourth year of treatment reveals numerous small calcified deposits with several striations and bands where originally the lesion was located. Lesions which are shown by an x-ray serial to have undergone little resolution, to contain little or no calcium, and to have made little or no attempt at stellar formation or fibrosis, and yet have no perifocal exudate, undoubtedly contain tubercle bacilli. If these lesions have not healed under pneumothorax they will not do so after re-expansion, and they may go on to central caseation, followed by liquefaction and excavation, if collapse is not maintained.

#### FLUID AS A COMPLICATION

When the development of a serous effusion occurs, a determined effort must be made immediately to prevent it from interfering with the desired degree of collapse. By performing frequent aspirations and providing the necessary air replacements, this untoward result may be averted.

The younger the patient, the more inclined is the author to prolong pneumothorax treatment. He has not yet resorted to re-expansion in the case of a patient in his teens, and feels that one rarely is justified in so doing. Between the ages of fifteen and thirty years relapses following re-expansion are more common than later.

#### OCCUPATION—ECONOMICS STATUS

Pneumothorax patients whose occupations require considerable physical exertion should change to easier jobs. The unfortunate number who have to return to hard manual labour ought to have pneumothorax treatment continued considerably longer than other patients, and a larger proportion of this group than of any other should have pneumothorax continued indefinitely.

Poverty with its by-products of unsanitary surroundings, poor food and lack of fresh air

is unfavorable to the rapid healing of tuberculous lesions. Patients struggling with difficult economic situations ought to have their pneumothorax continued longer than the average.

#### PREVENTION OF SPREAD

The more contacts there are, the more careful one has to be about terminating the treatment. A mother in the lower class, with a large family of children, ought to have her pneumothorax continued longer than otherwise, because of the havoc that may be caused if relapse occurs.

#### PREGNANCY

Where there has been a great deal of original lung destruction, pregnancy is not advised. Where the involvement has been somewhat less, and the economic and home conditions are satisfactory, pregnancy may be considered safe, provided pneumothorax is continued for at least one year after full term, provided pneumothorax has been satisfactory and sputum has been negative for three years. In cases where the original lesion was moderate in extent, the patient is advised to choose between having the baby during the fourth year of pneumothorax treatment, following a satisfactory collapse and negative sputum, and continuing the treatment for another year, or allowing re-expansion during the fourth year and then waiting for another three years before becoming pregnant.

#### A FINAL PERIOD OF TRIAL

When it has been decided that the time for stopping the treatment has arrived, the following procedure is adhered to: The partially re-expanded lung is allowed to re-expand further, so that before refill there is a collapse of only about ten per cent at the deepest part of the pneumothorax. The collapse is maintained at this level for from four to six months. It may be found necessary during these months to shorten the intervals between and to give smaller amounts of air, in order to insure a collapse of not more than twenty per cent after refill. Thus, the site of the original lesion is in a largely re-expanded state all through the refill cycle. During this period the patient is instructed to give the lung a real trial by rehearsing any extra work, or exercise, that is contemplated for the following five years. The patient ought at least to be leading what is considered, for him, a normal life. If there has been no change roentgenographically fol-

lowing this period, and if the sputum has remained negative for tubercle bacilli, the refills are stopped and the pleura space is allowed to obliterate.

#### FINAL SPUTUM TEST

Examination of tubercle bacilli by the direct smear method and even by the concentrated sputum examination have been found waning as a means of determining whether or not the pneumothorax patient is bacillus free. The guinea-pig inoculation test is far superior although it is an expensive procedure. The author feels that the community would be repaid many times by equipping the laboratory of each pneumothorax clinic with the facilities for this test.

*When Should Refills be Stopped?* by John Chichester Dundee, M. D., B. C. H. *British Jour. of Tuber., Apr., 1936.*

### MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

#### MEDICAL SCHOOL ETHICS AND ECONOMICS

A great deal of credit is due Dr. H. R. Wahl, dean of the University of Kansas School of Medicine, for his efforts to have these subjects presented to medical students.

Last year each of the following subjects were presented by physicians who have established well known abilities throughout the medical profession.

Malpractice, by C. B. Francisco, M. D.

Consultation Practice, by J. E. Welker, M. D.

The Workman's Compensation Act and Its Relation to Medical Practice, by M. J. Owens, M. D.

Opening Up an Office, by C. B. Schutz, M. D.

State Licensing Boards and Medical Organizations, by J. F. Hassig, M. D.

Relationship of the Young Physician to the Public, by G. M. Gray, M. D.

Relationship of the Physician to his Patients, by E. H. Hashinger, M. D.

Relationship of the Surgeon to His Patients and the Profession, by T. G. Orr, M. D.

Medical Jurisprudence (Ten hour course) by Dr. W. L. Burdick, Dean of the School of Law of the University of Kansas, and his Assistants.

Dr. Wahl plans to increase the number of such lectures this year, and would welcome suggestions for other topics.

#### MEDICAL ASSISTANTS

Perhaps the term "Medical Associates" would be more appropriate for Pharmacists throughout our State, who are making an honest effort to inform their customers about medical matters.

An exclusive prescription pharmacist of Kansas City, has for sometime been presenting news articles in the local newspapers. He has presented in his personally prepared articles a type of information that could not be improved upon by any physician.

The Kansas Medical profession recognizes with appreciation the educational articles that other pharmacists throughout the state have been presenting to the public. We enjoy reading these articles, and undoubtedly the public is more receptive when they come from such a source.

#### PREOPERATIVE ORDER

Election Day is near at hand. Do you know how the candidates you will vote for will deal with the health interests of the public?

Now is the time to consult such candidates. Get his views on all such problems. The medical profession has no selfish interest in legislation. Party views have no place in deciding health measures.

Social organizations, not the government, is the menace with which we have to deal. If a candidate in your district is to be influenced by these organizations, then most certainly he is not the one whom you should support.

#### INTER-PROFESSIONAL ORGANIZATION

The development of close relationship between physicians, dentists, pharmacists, veterinarians, and nurses, should be sponsored in every state.

These professions are represented in almost every community; their interests are closely akin and their combined activities in the promotion



of health measures would commend great respect.

Each of these groups have certain aims and ideals, the values of which have been limited. Misunderstanding between the groups, or a lack of interest in the others problems, produce such handicaps.

Our cooperative activities if properly coordinated will conserve the wasted energy and produce results.

### ADVICE FROM A SAGE

Dr. Wm. N. Wishard, Sr., of Indianapolis, Indiana, is one of the profession's noteworthy examples of Sagacity. He has lived to see the State of Indiana enjoy the benefits of the Medical Law, which he wrote in 1897. The Indiana Medical Law has had no little part in constructive changes in other states.

The following "Pearls of Wisdom", taken from one of his recent speeches, are herewith presented, because they have such wide application in the field of Medical Ethics and Economics.

"I have so many things coming to my mind, but I do want to tell you that there are some things that are more valuable at times than medical knowledge, and that is the ability to understand people. If a person has not very much the matter you don't need to exercise a great deal of medical knowledge, strictly speaking, but you do need to exercise a great deal of common sense.

"I recall many cases where a little understanding of the psychology of my patients has helped greatly. I happen to think of one just now which is rather amusing. A little lad about seven years old complained to his mother that he was 'car-sick' when he got on the train. They were starting to the Coast of Maine the next morning, and she appealed to me and said, 'Is there something that can be done for him?' I asked to see the boy, and looked at his tongue, and then looked as wise as I was capable of looking and went over his chest, felt his pulse, and I said, 'Yes'. I took a long shot doing this. I knew there was a wrong psychological element in this case. He was traveling a good deal and had acquired the habit of getting sick when on the car. After making the necessary and apparently serious examination of the lad I went to the drugstore and got a couple of one-half grain tablets of methylen blue, and said to the boy's mother, 'Give him one tablet tonight

when he goes to bed'. I impressed upon the young man's mind the fact that after he got up in the morning if the urine was blue and he would take the other tablet one-half hour before the train started he would not be car-sick at all. I learned that he ran to his mother in the morning and said, 'Oh, Mother, it's blue, it's blue!', and then he watched the clock and anxiously awaited eight o'clock when he took the other tablet, and his mother wrote that when they reached their destination he had not been car-sick at all.

"I recite that incident because it is suggestive of carefulness in judging as to what extent a patient's illness is influenced by his mental attitude. Sometimes, however, you may get tripped. You have to use a good deal of common sense and a good deal of careful thinking as to what kind of a patient you are dealing with. You have got to know more than medicine in dealing with some patients.

"Another thing that I would like to urge upon you is to be absolutely honest, absolutely sincere, and absolutely faithful. We have what we call a code of ethics, which the newspapers ridicule, and people laugh about, but it is a safeguard to humanity as to our action and the character of the work we do.

"In the old days I had quite a few personal students, young men who during their college years spent much time in my office. One man, came to me soon after he graduated and said, 'Doctor, I have come to see you and tell you good-bye'. Knowing the character of the man I replied, 'My friend, I can conceive of but one thing which would cause you to come and tell me good-bye, and that is that you are going to become an advertising quack'. He replied, 'I am going to be honest, but I am going to let patients tell their own story and just have their statements put in the paper'. Within a year he had offices in two cities, and was 'flying high'. I ventured to tell him that the average life of a quack of that kind was about ten years. About nine years later I was called to his bedside when he was dying in a hospital, absolutely penniless.

"I don't think it is necessary to laud yourself in a professional way. It is difficult at times to establish your reputation, and yet it is not hard to establish a medical practice. One of my friends once said, 'It is an easy thing to establish a reputation—you can do that in the newspapers—but it is a different problem to sustain your reputation after you acquire it.'

## MEDICAL LITERATURE

Edited by Will C. Menninger, M.D.

### INTRAVENOUS UROGRAPHY IN CHILDREN

Excretion urography as an aid both for diagnosis and a survey study is urged by Swick. This depends for its success on the functional activity of the kidney parenchyma or, more specifically, on the concentrating property of the kidney cell. When the concentrating power of the kidney is impaired or absent, the roentgenologic visualization will be correspondingly poor or absent, but in the presence of urinary tract obstruction, such as in cases of hydronephrosis, visualization is still possible tho the level of excretion be diminished. In hydronephrosis the presence of functioning renal tissue, as evidenced by intense radiologic shadows, is no quantitative criterion as to the extent of functioning renal tissue, and is therefore not an accurate guide to the type of therapeutic procedure. This will depend upon the individual case and pathologic-anatomic status, as well as upon the particular approach of the physician or surgeon. The functional activity of the kidney may be temporarily diminished or inhibited as a result of occluding lesions or trauma, altho the kidney parenchyma be anatomically intact. That the function has been temporarily inhibited may be concluded in cases in which the non-visualization of the urinary tract at one examination has been followed later by one return of visualization after the removal of the causative factor. This has been observed in one case following trauma from retrograde pyelography and in another from a high occluding stone. It is therefore dangerous to conclude in every case that the kidney parenchyma has been permanently damaged beyond repair because of the non-visualization of urinary tract at one examination. On the other hand, permanent non-visualization of a urinary tract may be of great assistance when considered with the other clinical data. Diseases which have been so diagnosed are calculus pyonephrosis, tuberculosis, congenital infected hydronephrosis, and neoplasm of the kidney. Routine excretion urography is used by the author in every child with pyuria and the diagnosis of pyelitis is made only after exclusion of other pathological lesions in the upper urinary tract.

Congenital solitary kidney, ectopic fused kidney, and dystopia of the kidney have been recognized by the use of excretion urography in the differentiation of abdominal masses. Excretion urography has also been of value in the recognition of kidney reduplication, but its success in polycystic kidney disease has not been very satisfactory.

Swick, M.: *Intravenous Urography in Children*, Radiology 26:539-542, May 1936.

### HEMANGIOMAS

Greenwald and Koota present a case of hemangioma of the brain associated with a nevus of the skin in a five year old boy, twenty-three other confirmed cases and fifty-eight unconfirmed cases, reported in the literature. They find that the most common symptoms of this disease are convulsive seizures, which in the majority of cases have been jacksonian, hemiplegia on the side opposite the nevus, mental retardation, nevus of the skin of the color of port wine, a serpentine or tortuous shadow in roentgen-rays of the skull, usually seen in the region of the occipital lobe, and other signs and symptoms resulting from ocular changes. The authors stress the need for a careful search for a nevus about the face, head, or neck in every case of so-called idiopathic epilepsy. If present, cerebral hemangioma should be suspected and roentgenologic studies of the skull should be made. Of the three possible treatment methods, operation, irradiation, or a combination of both, a combination of surgical operation and radiotherapy seems to be the best at present. The immediate prognosis is not bad, as no patient died immediately after the onset of convulsions or hemiplegia and the majority of patients died in the second and third decades of life. On the whole, the prognosis is poor.

Greenwald, H. M. and Koota, Jacob: *Associated Facial and Intracranial Hemangiomas*, American Journal of Diseases of Children 51:868-896, April 1936.

### POSTOPERATIVE RESPIRATORY COMPLICATIONS

A study of the postoperative respiratory condition of 7874 cases during 1933 and 1934 was made by Rovenstine and Taylor. Because it was impossible to report in detail all the minor respiratory complications following these operations, primary attention was given to anesthesia as contributing to the post-



operative morbidity. The seasonal variation was contingent upon the prevalence of respiratory diseases in the population outside the hospital. For this reason, during the months with a high incidence of respiratory infections, certain elective operations, such as plastic operations in infants, were omitted. The presence of any respiratory tract infection increases the incidence of postoperative respiratory infections. The anesthetic agent did not markedly influence the postoperative complications, but the anesthetic techniques was a more important factor. The incidence of complications, however, more nearly paralleled the surgical procedure involved. The increase in respiratory complications was in direct proportion to the seriousness of the risk. The degree of narcosis was an influence on the incidence of complications, and it was evident that surgical procedures that can be well executed with first plane anesthesia should not have more profound narcosis. The duration of the operation exerted the most striking influence. When the operation lasted from one to one and a half hours, the incidence of respiratory complications was twice that of those lasting one hour. When two hours was taken, the percentage of complications was more than three times that of one hour.

Rovenstine, E. A. and Taylor, Ivan B.: Postoperative Respiratory Complications: Occurrence Following 7874 Anesthesias. *American Journal of Medical Sciences* 191:807-819, June 1936.

#### INTERMITTENT CLAUDICATION

Hitzrot and his associates describe a method of recording graphically the fatigue of the muscles involved in intermittent claudication and the results of their experiments following this method. The calf muscles were stimulated faradically at rates of once every four seconds, once every two seconds, and once every second, for brief periods, without depending upon the volition of the subject. Fixed periods of stimulation, alternating with short rest periods, permitted the measuring under standard conditions not only the rate of fatigue, but also the rate of recovery. A series of normal fatigue curves were charted and were compared with a series of curves obtained from patients with peripheral vascular disease. The following features were presented by the curves of patients with peripheral vascular disease: (1) The same intensity of stimulation (in amperes) generally produced a lower amplitude

of contraction at present, this difference cannot be attributed either to general weakness or the smaller calf muscles usually found in patients with peripheral vascular disease; (2) the amplitude of contraction began to diminish earlier and declined more rapidly in the course of the standard series of contractions; (3) in the routine rest periods muscle power recovered decidedly less completely so that the fatigue curve showed, as a whole, a more or less conspicuous slope downward as the test proceeded; (4) this diminution in amplitude was associated with sensations of fatigue and claudication pain. The latter at time was so severe that the test could not be completed. It is suggested that this method may aid in detecting vascular insufficiency involving the calf muscles in questionable cases and that it may assist in estimating objectively the efficacy of therapeutic measures.

Hitzrot, L. H.; Naide, M.; and Landis, E. M.: Intermittent Claudication Studied by a Graphic Method, *American Heart Journal* 11:513-526, May 1936.

#### INTRACRANIAL TUMORS

This is a study of 157 cases of brain tumor operated on nine years ago. Sixty-three of these are still living at the present time, a far higher ratio of survival after operation than has ever been reported before in any series. The author points out that all gliomas are not malignant and eight of the patients (out of a series of fifty-nine who had gliomas) are still living. As is expected, the best results were obtained in the cholesteatomas, astrocytomas, meningiomas, and pituitary adenomas. A surprise to the author was to find that a good many of the pituitary tumors operated on by the transphenoidal route are still doing very well after many years.

Cairns, Hugh: The Ultimate Results of Operations for Intracranial Tumors: A Study of a Series of Cases after a Nine-year Interval, *Yale Journal of Biology and Medicine* 8:421-492, May 1936.

#### THE USE AND ABUSE OF NON-NARCOTIC SEDATIVES

(Continued from page 409)

13. Bleckwenn, W. J.: Production of Sleep and Rest in Psychotic Cases, *Arch. Neurol. & Psychiat.* 24: 365-372. August 1930.
14. Fellows, R. M.: Sodium Amytal in the Treatment of Paresis (Preliminary Report), *J. Missouri M. A.* 29: 194-196. May 1932.
15. Page, I. H. & Coryllos, P.: Isoamyl Ethyl Barbituric Acid (Amytal); Its Use as Intravenous Anesthetic, *J. Pharmacol. & Exper. Therap.* 27:189-200. April 1926.
16. Witt, G. F. & Cheavens, T. H.: Sodium Barbitol-Sodium Phenobarbital Narcosis in Treatment of the Acute Psychoses, *Texas State J. Med.* 30:517-520. Dec. 1934.

## NEWS NOTES

### WARNING

The following excerpt from the September 25 issue of the Journal of The American Medical Association is reprinted by reason the person described is at present traveling in Kansas and has victimized several Kansas physicians:

"Fraudulent Instrument Repair Man.—A Missouri physician reports that a man using the name J. C. Hartley recently visited him soliciting orders for instruments and for replating old ones. The man said he represented his own firm of Hartley and Company in St. Louis. He victimized four physicians in one town and has not been heard from since. Letters sent to the St. Louis address have not been delivered. The man was described as being about 5 feet 8 inches tall, weighing about 140 pounds, slightly stooped, with dark hair, thin in front, dark complexion, smooth shaven and wearing glasses. He is said to have shown an excellent knowledge of instruments, their uses and value."

A request is made that if he appears at your office, the central office be notified in order that an attempt may be made to secure his arrest.

### COMPENSATION MEETING

Approximately 100 physicians attended the morning and afternoon sessions of the medical program held in conjunction with the International Association of Industrial Accident Boards and Commissions in Topeka on September 23. A substantial number of physicians also attended other portions of the meeting. Many technical and non-technical lectures of interest to the medical profession from the standpoint of workmen's compensation were presented and all were well received. A resolution was unanimously approved by the physicians in attendance wherein the International Association was thanked for its cooperation in a medical program for the first time in the twenty-three years existence of the organization, and also hope was expressed that similar events might be held in the future.

### VENEREAL DISEASE COMMITTEE

Following a conference between Dr. Earle G. Brown and Dr. R. H. Riedel, Secretary and Head of the Division of Venereal Diseases of the Kansas State Board of Health, respectively, and Dr. H. L. Snyder, President of the Society, arrangements have been completed for the appointment of a Society Committee on Venereal Diseases.

The Committee will serve in an advisory capacity similar to the Committee on Tuberculosis and the Committee on Maternal and Child Welfare, and it will attempt to assist the Kansas State Board of Health in the development and execution of venereal disease programs throughout the state.

### 1937 STATE MEETING

A meeting of a preliminary committee on arrangements of the Shawnee County Medical Society was held recently in Topeka to discuss preparations for the 1937 annual session of the Society to be held in that city. A considerable number of general recommendations were prepared which subsequently have been approved by Shawnee County Medical Society, and the following committees have been appointed for supervision of various functions of the meeting:

Dr. J. L. Lattimore, General Chairman.

Dr. M. B. Miller, General Treasurer.

Program Committee: Dr. L. R. Pyle, Chairman, Dr. L. E. Eckles, Dr. M. B. Miller, Dr. J. G. Stewart.

Scientific Exhibits Committee: Dr. F. C. Taggart, Chairman, Dr. A. J. Brier, Dr. M. E. Pusitz, Dr. Leo. Smith.

Commercial Exhibits Committee: Dr. J. T. Hunter, Chairman, Dr. C. E. Joss, Dr. O. M. Raines, Dr. H. W. Gootee.

Sections Committee: Dr. H. W. Powers, Chairman, Dr. A. D. Gray, Dr. B. I. Krehbiel, Dr. M. G. Sloo.

Golf and Trap Shoot Committee: Dr. F. L. Loveland, Chairman, Dr. R. J. Miller, Dr. H. T. Morris, Dr. W. W. Reed.

Banquet-Entertainment Committee: Dr. H. L. Kirkpatrick, Chairman, Dr. E. C. Decker, Dr. M. Hall, Dr. G. L. Kerley.

Public Meetings Committee: Dr. A. K. Owen, Chairman, Dr. S. A. Hammell, Dr. L. L. Saylor, Dr. H. H. Woods.

Accommodations Committee: Dr. H. J. Davis, Chairman, Dr. B. J. Ashley, Dr. O. R. Clark, Dr. G. F. Helwig.

Arrangements Committee: Dr. Guy Finney, Chairman, Dr. W. M. Mills, Dr. C. K. Schaffer, Dr. W. H. Weidling.

Publicity Committee: Dr. Earle G. Brown, Chairman, Dr. H. L. Clark, Dr. O. P. Davis, Dr. P. M. Powell.

Ex-Presidents' Meeting Committee: Dr. F. C. Boggs, Chairman, Dr. H. B. Talbot.

Ladies Entertainment: Mrs. J. T. Hunter, Chairman, Dr. Elvenor A. Ernest, Mrs. H. B. Hogeboom, Mrs. W. M. Mills, Mrs. C. B. Van Horn.

First action of the Program Committee toward selection of the scientific program was the issuance of the following bulletin which it is hoped will provide accurate information about the wishes of members in this connection:

"To the Officers, Councilors, County Society Secretaries and Official Representatives of The Kansas Medical Society:

"The members of the local Program Committee for the 1937 meeting of The Kansas Medical Society, in conjunction with the Society Committee on Scientific Work, are beginning to lay plans for the scientific program of the next annual meeting. It is the desire of this committee to secure the best possible program to fit the needs and desires of all of the members of The Kansas Medical Society. As a result of which, there is enclosed, a list of subjects for papers and discussions which we feel are pertinent at the present time. Will you please check those subjects that you feel that the doctors in your county or district, would be most interested in for the next annual meeting.



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"It is also the opinion of the committee that since this is the annual meeting of The Kansas Medical Society, Kansas should be amply represented on this program. It is our desire, that you list any men in your community doing any special type of research, or having a definite interest in some particular subject, that would be interested enough to prepare a paper that would be suitable to fill a prominent place in this program, and from which group a representative number may be selected.

"If there is any subject that you or your members would like to have discussed, that has been omitted from the enclosed list, would you be so kind as to add it in the space reserved for that purpose on the enclosed sheet.

"We would appreciate a prompt reply to this questionnaire so that the desires may be tabulated at the next meeting of this committee which will be on or shortly after October 20.

Sincerely yours,  
L. R. Pyle, M. D., Chairman,  
1937 Program Committee.

### QUESTIONNAIRE

#### I. Proposed subjects:

1. Protamine insulin in treatment of diabetes.
2. Diabetes as related to pregnancy.
3. The diabetic as a surgical risk.
4. Roentgenologic features of acute pulmonary infections.
5. Therapeutic methods in the treatment of pneumonia.
6. Clinical diagnosis in contrast to x-ray diagnosis.
7. Physio-therapy and medicine.
8. Chronic diarrhea.
9. Hypertension.
10. Acute hepatic insufficiency with special reference to liver function tests and therapy.
11. A summary of the causes of anemia with fundamentals concerning treatment.
12. Endocrine therapy in general practice.
13. Pituitary hormones.
14. Hypothyroid heart disease.
15. Allergy.
16. The differentiation of genuine cardiac pain and conditions simulating it.
17. Rheumatoid arthritis and its treatment.
18. Water metabolism.
19. Changing practices of infant feeding.
20. Prophylaxis and treatment of contagious diseases.
21. Leucorrhea, types, symptoms and treatments.
22. Treatment of abortion, spontaneous, induced and septic.
23. Prevention of acne vulgaris in adolescent children.
24. Diagnosis and treatment of common skin diseases.
25. Treatment of surgical conditions complicating the extraction of teeth.
26. The diagnosis of mastoiditis.
27. The draining ear.
28. The status of treatment of persistent gonorrhea, in the male.
29. The diagnosis and treatment of minor rectal disorders.
30. Cancer, with special reference to radium, x-ray and surgery.

31. Undulant fever.

32. Anemia of pregnancy, incidence, cause and treatment.

II. Suggestions for Additional Subjects.

III. Suggestions for speakers to appear on the 1937 program that are members of The Kansas Medical Society."

### COMMITTEE MEETINGS

Two important Society committee meetings were held in Kansas City, Missouri, on October 8 during the meeting of the Kansas City Southwest Clinical Society: The Medical Economics Committee met to review recent activities of its various subcommittees and to plan activities for the ensuing year. A meeting of the Committee on Public Policy was held for consideration of a proposed Basic Science Law brochure and for other plans relating to the Society 1937 legislative program.

### NATIONAL HEALTH SERVICE

An interview has been held recently with the promoters of the National Health Service of Wichita which concern was described in the September issue of the Journal. It was found, as is indicated in the following prospectus issued by the promoters, that the company intended to engage in the usual form of profit-making, pre-payment, health service:

"We know there is a movement on foot that will eventually cover the country. In some localities it has been called socialized medicine, in others, community medicine and in still others, co-operative medicine. Regardless of the name applied to this service, the basic principles underlying this movement are all the same; namely, to put competent medical service and professional skill within the reach of everyone and at the same time give the medical doctor his just reward for professional services rendered.

"This plan is operating in a number of communities in various parts of the United States and has met with immediate approval and great success.

"To be successful, the publicity and selling of this service must be handled by an organization other than that of the medical society or group of doctors concerned, whether it be a local organization, organized for the purpose, or by a publicity and selling organization from outside the community.

"Knowing the above to be facts, an organization known as National Health Service for the handling of the publicity and selling of such service has come into being.

"It was our original intention to make connections with the doctors individually, however, we know that we can work with any group of doctors that will work together congenially, abide by the decision of the majority and accept payment from the collective subscribers in one lump sum each month. National Health Service can not accept the responsibility of dividing the money among the doctors concerned.

"The contract decided upon should include



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*Arch. Otolaryngology*, Mar. 1936, Vol. 23, No. 3, 306-309

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the following clauses:

"National Health Service would agree to

1. Solicit members in the territory served by the doctors.

2. Direct publicity to prospective subscribers through the mails, newspapers and by personal contact.

3. Collect from subscribers and remit to medical society in lump sum each month.

4. Furnish doctors list of members in good standing and entitled to service each month.

"The group of doctors would agree to

1. Furnish medical and professional services in the offices of the doctors whenever required by the subscribers.

2. Furnish medical and professional services in the homes of subscribers whenever required, but a mileage charge to be made for home calls.

3. Furnish prescriptions.

4. Charge regular professional charge for all services rendered to persons who are not subscribers.

"The exceptions in the contract would be as follows:

1. The subscribers would pay for all medicines.

2. The subscribers would pay the regular professional charge for confinement cases prior to ten months from date of contract, for x-rays, major surgery and venereal diseases."

After discussion with officials of the Society about the scientific and economic difficulties presented therein the legal restrictions pertaining to the Insurance Code of Kansas, and the practice of medicine by corporations, the promoters agreed that the project should be abandoned.

#### LIASON COMMITTEES

Response has been excellent to the request of Dr. H. L. Snyder for establishment of Kansas State Board of Health Liason Committees by the county medical societies and it is expected that committees of this kind will soon be appointed in all of the 105 counties.

Present plans provide that these committees will receive, within the near future, a complete description of the public health and maternal and child welfare portions of the Social Security Act and also that they will be asked to assist in the following ways:

Acquaintance of members with all facts concerning the Social Security Act.

Discussion with representatives of the Kansas State Board of Health or other representatives concerning the advisability or possibility for introduction of Social Security Act functions in their counties.

Subsequent discussion of these proposals with the members of the local medical profession.

Assistance in the institution and administration of any programs adopted thereby.

Similar activities in any other functions pertaining to public health in that county.

It is believed that this activity will be a particularly important one. If your society has not as yet appointed a Liason Committee, a suggestion is made that it do so immediately and that the names of the members thereof be communicated to the central office.

#### SCIENTIFIC SPEAKERS BUREAU

The Committee on Scientific Work has recently completed a compilation of speakers available for county medical society meetings. This listing which is to be distributed in the near future will include information about the names and subjects of speakers that may be secured through the following organizations and also expenses and other arrangements incidental thereto:

Committee on Control of Cancer.

Committee on Hospital Survey.

Committee on Maternal and Child Welfare.

Committee on Medical Economics.

Committee on Medical History.

Committee on Public Health and Education.

Committee on Control of Tuberculosis.

The Kansas State Board of Health.

The State Sanatorium for Tuberculosis.

The Osawatimie State Hospital.

The University of Kansas School of Medicine.

The Kansas State Dental Association.

The Kansas Hospital Association.

The Kansas Veterinary Medical Association.

The Kansas Pharmaceutical Association.

The Kansas Bar Association.

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Trowbridge Training School.

It is the hope of this Committee that a compilation of this kind will tend to suggest interesting subjects for county medical society meetings and also that it will be of assistance to the county secretaries and program committees in the preparation of programs.

#### JUBILEE CONTEST

A contest has been sponsored in various counties of the state by the committee in charge of the Kansas Diamond Jubilee celebration in Wichita on October 7-17 to determine the most outstanding citizen in each of these counties. It is interesting to note that a large number of these contests have resulted in the selection of physicians. The winners will be guests of honor at the celebration, and their pictures are to be placed in a Kansas Hall of Fame.

#### STATE BOARD OF HEALTH MEETING

The regular quarterly meeting of the Kansas State Board of Health was held in Topeka on September 30. Members present were: Dr. W. J. Eilerts, Wichita; Dr. W. C. Lathrop, Norton; Dr. C. E. Coburn, Kansas City; Dr. Herbert Smith, Pittsburg; Dr. G. I. Thacher, Waterville; Dr. H. L. Aldrich, Caney, Dr. Alfred O'Donnell, Ellsworth, Dr. James G. Stewart, Topeka;



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Dr. Brown's quarterly report and his report on the fifty-first annual conference of State and Provincial Health Authorities of North America held in Vancouver, British Columbia, were presented and the following reports of the division heads of the board were read and discussed: Dr. H. R. Ross, Director of Division of Child Hygiene; Dr. L. R. Kramer, Director of Division of Dental Hygiene; Dr. Clifton Hall, Director of Division of Tuberculosis; Dr. R. B. Stafford, Director of Division of Local Health; Dr. C. H. Kinnaman, Epidemiologist; Dr. R. H. Riedel, Director of Division of Venereal Diseases; Mr. Thomas I. Dalton, Assistant Chief, Food and Drug Inspector; Mr. Ross L. Laybourn, Bacteriologist-in-charge, Public Health Laboratory; Mr. Roy N. Johnston, Assistant State Director Community Sanitation; and Dr. C. L. Miller, Director of the Division of Vital Statistics.

An important event of the meeting was the appointment of Dr. E. K. Musson, Jefferson City, Missouri, as Director of the Division of Preventable Diseases. It is planned that the former divisions of Communicable Diseases, Tuberculosis, and Venereal Diseases will consolidate under this one head. Dr. Musson was a graduate of the University of Kansas School of Medicine in 1928 and received his master's degree in public health at Harvard in 1933.

#### MEDICAL ECONOMICS BULLETIN

A bulletin pertaining to medical economics was forwarded to all members on September 15 by the subcommittee on Professional Information of the Medical Economics Committee.

A pamphlet published by the American Medical Association and entitled "An Introduction to Medical Economics" was enclosed therein which is deemed worthy of study by every Kansas physician.

#### MEMBERS

Dr. O. W. Davidson, Kansas City, was a guest speaker at the meeting of the Southwestern Branch of the American Urological Association held in Omaha, Nebraska, on September 19, and was also elected as a member of the Executive Committee of that organization for 1936-37.

Dr. F. E. Dargatz, Kinsley, is enrolled in the post-graduate course for health officers at Vanderbilt University, Nashville, Tennessee.

Dr. D. C. Baer, formerly of Moundridge, has gone to Dallas, Texas, where he will continue his practice.

Dr. Ralph M. Fellows, Superintendent of The Osawatimie State Hospital, Osawatimie, spoke before members of the Crawford County Mental Hygiene Society in Pittsburg on September 23.

Dr. F. P. Helm, Topeka, will attend the annual convention of the American Public Health Association in New Orleans, on October 23.

Dr. C. A. Hellwig and Dr. C. C. Tucker, of Wichita,

have been invited to present a scientific exhibit at the meeting of the Post-Graduate Medical Assembly of South Texas to be held in Houston during December. Dr. E. M. Seydell, Wichita, will also appear on the program at the same meeting.

Dr. C. G. Meek, formerly of Morland, has moved his offices to Little River where he will continue his practice.

Dr. G. B. Morrison, Wichita, was selected to introduce Dr. P. S. Pelouze, Philadelphia, at the meeting of the Southwestern Branch of the American Urological Society in Omaha, Nebraska, on September 19.

Dr. Newman Nash, Wichita, has purchased the office equipment and will continue the practice of the late Dr. J. A. H. Webb, Wichita.

Dr. H. L. Scales, Hutchinson, attended the American Academy of Ophthalmology and Otolaryngology, meeting held in New York on September 26 to October 3.

Dr. Edwin A. Tufts, Arkansas City, has gone to New Orleans, Louisiana, where he will take a post-graduate course at Tulane University.

The September issue of the *Annals of Surgery* contained a case report on "Streptococcus Meningitis and Septicemia: Recovery after transfusions from donors who had had scarlet fever", by Dr. Maurice A. Walker and Dr. Emery O. King, both of Kansas City.

#### COUNTY SOCIETIES

The Atchison County Medical Society has arranged to sponsor a diphtheria immunization project during the month of October. Toxoid will be furnished by the Kansas State Board of Health without charge and the county commissioners of Atchison County will pay physicians an approximate cost price for administration.

The Wabaunsee County Medical Society held a business meeting in Eskridge on September 25.

The Great Bend Tribune in a fifty-year anniversary issue, carried an extensive article prepared by the Barton County Medical Society concerning the history of physicians in that county and of that society. The article is interestingly written, and describes the organization of Barton County Medical Society in 1886, the conditions of early day practice, the differences of modern practice, and the Barton County indigent plan which has operated uninterruptedly since 1915, and which is said to be one of the oldest indigent plans in the United States.

The Butler-Greenwood County Medical Society and the Greenwood County Mds.' Society for Indigent Care held a joint meeting on September 9 in Eureka. Following the dinner, Dr. Frank L. Menchan, Wichita, spoke on "Present Status of Preventive Pediatrics." A business session followed. Approximately thirty-five members and guests were present.



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Dr. Thomas G. Orr, professor of surgery at the University of Kansas School of Medicine, Kansas City, was the principal speaker at a meeting of the Clay County Medical Society in Clay Center, on September 16.

Members of the Ford County Medical Society held their regular monthly dinner-meeting in Dodge City, on September 11. The following speakers appeared on the program: Dr. Thomas Orr, Kansas City, spoke on "Diseases of the Biliary Tract"; and Dr. Lewis Allen, Kansas City, on "Radiological Diagnosis of Conditions of the Upper Abdomen." Fifty-eight doctors attended the dinner and meeting. Dr. J. S. Norman, Pueblo, Colorado, assisted with an orthopedic clinic and Dr. C. F. Taylor, Norton, with a chest clinic at St. Anthony's Hospital during the day.

The regular quarterly meeting of the Golden Belt Medical Society was held in Topeka on October 1. Dr. Richard R. Sheldon, Salina, presented a paper on "Deficiency Polyneuritis"; Dr. Karl Menninger, Topeka, spoke on "Neurotic Invalidism"; Dr. Edw. H. Hashinger, Kansas City, Missouri, talked on "Some Recent Improvements in the Treatment of Common Endocrine Disturbances"; and Dr. Herman Moersch, Rochester, Minnesota, spoke on "Indications and Treatment of Bronchial Obstructions".

The Lyon County Medical Society held a meeting in Emporia on September 1.

Members of the Marshall County Medical Society met in Frankfort on September 17 with Dr. John Outland, Kansas City, as the guest speaker on the program. Approximately fifteen members were present.

The first fall meeting of the Montgomery County Medical Society was held in Coffeyville on September 4.

The Shawnee County Medical Society held a meeting on September 8 in Topeka. The principal speaker on the program was Dr. O. C. Wenger, surgeon of the United States Public Health Service who spoke on "The Diagnosis and Treatment of Syphilis".

Dr. Albert N. Lemoine and Dr. Thomas Hall, Kansas City, Missouri, were the guest speakers on the program of the Southeastern Kansas Medical Society dinner-meeting held in Hepler on September 23.

Members of the Washington County Medical Society held a meeting on September 15 in Washington. Dr. F. R. Croson, Clay Center, spoke on "Acute Intestinal Obstruction."

The members of the Wilson County Medical Society and the Wilson County Auxiliary held their first fall dinner-meeting on September 14. Dr. A. C. Flack read a tribute to the late Dr. W. H. Young. A plan for care of the indigent was also discussed.

Thirty-four members attended the September 1 meeting of the Wyandotte County Medical Society held in Kansas City. Dr. H. W. King and Dr. H. L. Regier, Kansas City, were the principal speakers and a discussion was held concerning facilities for care of tubercular patients at the University of Kansas Hospital. At another

meeting on September 15, Dr. H. R. Wahl, held a "Pathological Conference"; Dr. T. J. Sims, spoke on "Conception Time" and Dr. W. F. Lunsford, gave a city health review.

## DEATH NOTICES

Dr. Porter W. Barbe, 90 years of age, died at his home in Oswego on September 7. He was born in Bristolville, Ohio, on June 27, 1846, and received his early educational training at the Western Reserve Seminary and Hiram College. He attended the Columbus Medical College and the Cleveland Medical College, and graduated from Cleveland in 1880. He began his practice at Burg Hill, Ohio, where he remained for five years. He later took a special course in the Medical department of the Western Reserve University at Cleveland, Ohio. He went to Oswego in 1885 and practiced there for forty-nine years until his retirement in 1934. He was an honorary member of the Labette County Medical Society.

Dr. Charles S. Bendure, 76 years of age, died at his home on September 11 in Baxter Springs. He was born on August 3, 1860, in Plymouth, Indiana, and came to Kansas in 1870. He received his medical training at the Kansas City Medical College, graduating from there in 1897. Dr. Bendure had practiced medicine for fifty-three years, and had been in Baxter Springs for eleven years. He was a member of the Cherokee County Medical Society.

Dr. Helen G. Bond, 65 years of age, died at her home in Concordia on August 23. She was born in Newburyport, Massachusetts, on April 21, 1871, and received her early training at the Nazareth Academy in Concordia. She attended the Southwest School of Medicine in Kansas and graduated from there in 1904. Dr. Bond's father, George Joseph Lunt Colby, was a nationally known newspaper editor of his time and was a direct descendant of Sir Anthony Colby. Her mother was a direct descendant of Robert Bruce, king of Scots. Dr. Bond was an honorary member of the Cloud County Medical Society.

Dr. William D. Groff, 71 years of age, formerly of Nortonville, died in a hospital in Williamsport, Pennsylvania, on September 19. He was born in Allenwood, Pennsylvania, October 9, 1865, and went to Nortonville as a young man. He worked in a drug store there for several years and then entered the University of Kansas Medical School, graduating in 1898. He had practiced medicine in Nortonville for more than forty years. He was a member of the Shawnee County Medical Society.

Dr. Albert Smith, 66 years of age, died at his home in Parsons on September 13. He was born on July 24, 1870 in Erie, and moved with his family to Parsons during his youth. He attended grade and high school in Parsons, and studied one year at the University of Kansas. He later attended the Philadelphia College of Pharmacy and worked as a druggist with his father for one year. At the end of this time he went to Chicago and graduated in 1895 from the College of



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Prof. of Obs. & Gyn., Emory Univ. Sch. of Med.

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Prof. of Obs. & Gyn., Univ. of Texas; Fellow of  
Amer. Assoc. of Obs. & Gyn.; Fellow of Amer. Gyn.  
Society.

DR. WILBURT C. DAVISON, Pediatrics, Durham, N. C.  
Dean of Sch. of Med. & Prof. of Pediatrics, Duke  
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DR. KARL A. MENNINGER, Neuropsychiatry, Topeka  
Chief of Staff, Menninger Clinic, Topeka

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DR. TINSLEY R. HARRISON, Internal Med., Nashville  
Assoc. Prof. of Med., Dept. of Medicine, Vanderbilt  
University.

DR. F. E. SENEAR, Dermatology, Chicago  
Prof. & Head of Dept., of Dermatology, Univ. of  
Illinois College of Medicine.

DR. WILLIS C. CAMPBELL, Orthopedics, Memphis  
Prof. of Orthopedic Surg., Univ. of Tenn.; Chief of  
Staff, Dr. W. C. Campbell Clinic, Crippled Children's  
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DR. A. C. FURSTENBERG, Otolaryngology, Ann Arbor  
Dean of Med. Sch. & Prof. of Otolaryngology, Univ.  
of Mich., Ann Arbor.

DR. T. B. MALLORY, Pathology, Boston  
Director of Laboratory of Pathology and Bacteriology,  
Mass. General Hosp.; Assoc. Prof. of Pathology,  
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Physicians and Surgeons. He returned to Parsons where he practiced until his death. He was an honorary member of the Labette County Medical Society.

Dr. Harry T. Salisbury, 69 years of age, died at the Veterans Hospital in Danville, Illinois, on August 22. He received his medical training at the University Medical College in Kansas City and graduated from there in 1890. He was an honorary member of the Coffey County Medical Society.

Dr. Peter B. Witmer, 67 years of age, died on August 24 in Abilene. He was born in 1869 and received his medical training at the Jefferson Medical College, Philadelphia, Pennsylvania, from which he graduated in 1896. He was a member of the Dickinson County Medical Society.

### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending September 26	Month ending August 22
Scarlet Fever .....	109	164
Tuberculosis .....	98	55
Syphilis .....	78	66
Whooping Cough .....	71	37
Gonorrhea .....	64	72
Mumps .....	60	45
Typhoid Fever .....	51	31
Pneumonia .....	41	55
Diphtheria .....	37	22
Vincent's Angina .....	13	9
Poliomyelitis .....	13	2
Measles .....	11	9
Chickenpox .....	9	4
Cancer .....	8	3
Undulant Fever .....	4	7
Encephalitis .....	4	5
Erysipelas .....	2	5
Influenza .....	2	1
Septic Sore Throat .....	1	5
German Measles .....	1	4
Smallpox .....	1	1
Meningitis .....	0	4

### NEW BOOKS RECEIVED

**ROENTGEN INTERPRETATION**—By Dr. George W. Holmes, roentgenologist to the Massachusetts General Hospital and clinical professor of roentgenology, Harvard Medical School; and Dr. Howard E. Ruggles, roentgenologist to the University of California Hospital, and clinical professor of roentgenology University of California Medical School. Published by Lea & Febiger, Philadelphia, at \$5.00 per copy.

**RESEARCH IN DEMENTIA PRECOX**—By Dr. Nolan D. C. Lewis, director of clinical psychiatry, St. Elizabeths Hospital, Washington, D. C. Published by the National Committee for Mental Hygiene, New York City, at \$1.50 per copy.

**INTERNATIONAL CLINICS**, Volume III Forty-Sixth Series, September, 1936. Edited by Dr. Louis Hamman, visiting physician, Johns Hopkins Hospital, Baltimore, Maryland, in collaboration with other physicians. Published by the J. B. Lippincott Company, Philadelphia.

### ANNOUNCEMENTS

An announcement has been received concerning the Bureau of Human Heredity, 115, Gower Street, London, W. C. 1, England. The object of the Bureau is collection on as wide a scale as possible of material dealing with human Genetics. The Bureau is directed by a Council representing medical and scientific bodies in Great Britain. It is affiliated with the International Human Heredity Committee, which will enable co-operation in all areas where research is proceeding. It desires to receive all available material from institutions and individuals, furnishing well-authenticated data on the transmission of human traits whatever these may be. Pedigrees are particularly desired; twin studies and statistical researches are also relevant. Material submitted should be given with all available details in regard to source, diagnostic symptoms, and the name and address of the person or persons who vouch for accuracy. All such details will be regarded as strictly confidential. The organization will forward copies of the Standard International Pedigree Symbols to all interested persons.

A bulletin issued by the Civilian Conservation Corps Surgeon, Headquarters Seventh Corps Area, Federal Building, Omaha, Nebraska, on September 15, states that there is need for young physicians in the Civilian Conservation Corps, that physicians having appointments in the Medical Corps Reserve of the Army and Navy may be ordered to duty under their commissions, and that appointments on a contract basis are available for physicians who are not members of the Reserve Corps.

"Mead's Medical Sports Review" is the title of a new complimentary monthly publication devoted to athletic prowess of the medical profession and published by the Mead Johnson Company of Evansville, Indiana. It is intended to cover a wide range of sports. In the first number just issued, mention is made that Dr. E. S. Edgerton, Wichita, was one of the first officers of the American Medical Golf Association.

The twenty-sixth annual Clinical Congress of the American College of Surgeons will be held in Philadelphia on October 19-23 at the Bellevue-Stratford Hotel. Eminent surgeons from the United States, Canada, and from abroad will discuss subjects of present day importance. There will also be an extensive program of operative clinics and demonstrations.

Dr. Harold Hays, New York City, has accepted the position of Director General of the American Medical Editors' and Authors' Association taking charge August first. He is endeavoring to stimulate interest in the non-medical literary efforts of physicians and desires references to any article, short story, serial or novel written by an American doctor. His organization will review such articles submitted referring them to an agent for placement. This association also edits and puts in shape for publication articles on medical subjects.





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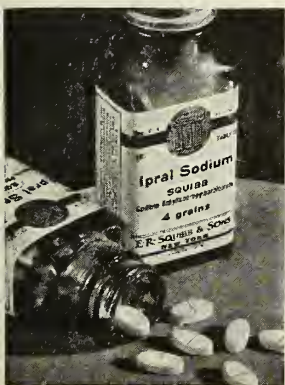
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The Camp Transparent Woman was unveiled in New York on August 20, 1936. The New York Museum of Science and Industry in Rockefeller Center by Dr. Dean De Witt Lewis, famous Surgeon in Chief of Johns Hopkins Hospital, Baltimore, Md., before a distinguished gathering of noted scientists, leading medical authorities and prominent public health officials. Dr. Roy Chapman Andrews, Director, American Museum of Natural History, New York was also a speaker on this program which was nationally broadcast. The exhibit was brought to America, and is loaned to the museum through the generosity of the S. H. Camp Company, manufacturer of physiological supports of Jackson, Mich., as his contribution to public health education in America.

The figure is constructed entirely of a transparent material making every organ, even the delicately designed veins and circulatory system clearly visible to the observer as though he were possessed of x-ray eyes. It is now on public exhibition in the Main Hall of The New York Museum of Science and Industry for a brief period prior to a nationwide public health educational tour of one hundred cities which is expected to last more than two years. It will be accompanied by a doctor-lecturer who will introduce the exhibit to scientists, the profession and public health officials nationally, and to the general public in a series of lectures to which admission will be free.

The next written examinations and review of case histories of Group B applicants by the American Board of Obstetrics and Gynecology will be held in the various cities in the United States and Canada on Saturday, November 7, 1936, and on Saturday, March 6, 1937.

The next general examination for all candidates (Groups A and B) will be held in Atlantic City, N. J., on June 8 and 9, 1937.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburg (6), Pennsylvania. Applications for these examinations must be filed in the Secretary's office not later than sixty days prior to the scheduled date of examination.

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## AUXILIARY

Edited by Mrs. W. G. Emery, Press Publicity Chairman

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Mrs. N. C. Morrow of Parsons who with Dr. Morrow and Ruth made a vacation trip through the west kept the Auxiliary in mind while she was enjoying the principle cities between Kansas City and coast as well as the Yosemite. On her return she sent clippings from San Francisco papers and the Parsons Sun indicating that the California Auxiliary has a splendid program which they are actively pushing:

Tri-State Fair Notes.—“An outstanding bit of work for the progress of more healthful methods of living is being done this week at the fair in connection with the Red Cross baby clinic by the women of the Parsons unit of the American Medical

Association Auxiliary.

“Sponsored by the auxiliaries over the United States, a program for the purpose of gaining a wider reading public for the Hygeia magazine published by the American Medical Association, is now underway. The women at the fair have sample copies of the publication to distribute to those interested.

“Other pamphlets for sale which will interest many parents concern sex education. These particular facts have been pronounced by reliable authorities on the subject to provide a splendid opportunity for children from the ages of twelve to twenty to gain such information. Other literature includes: Milk, as a food and as a medium for the transmission of diseases and other health subjects.

“The Parsons unit of the Auxiliary is one of ten organized in Kansas counties and the Kansas Medical Auxiliary is one of forty-two states organized in the United States.

Parsons women who have been active in working on the booth are Mmes. M. C. Ruble, L. A. Proctor, J. T. Naramore, T. D. Blasdel, R. W. Urie and C. H. Miller.

“One of the interesting activities of the Kansas Medical Society Auxiliary, in connection with the baby clinic, is a booth to promote wider reading of the Hygeia magazine, published by the American Medical Association. Mrs. M. C. Ruble, Mrs. L. A. Proctor and Mrs. J. T. Naramore are in charge.”  
—Parsons Sun.

The Auxiliary to the Wyandotte County Medical Society met Friday, September 4, at the Council of Clubs House. Mrs. L. G. Gloyne, State President, was a guest and gave a brief report of plans for the coming year. Plans were made to place Hygeia in the schools and to conduct a story hour in the children's wards of the various hospitals. The next meeting will be Friday, November 6.

Mrs. Wolfer, Chairman of Public Relations, Illinois State Auxiliary, writes they are stressing that every member of the organization is a member of the Public Relations Committee, which is a splendid idea.

Mrs. W. G. Emery, Chairman of the Kansas Press and Publicity Committee, has been appointed Regional Director of the central district Public Relations.

Several pages of instructions and recommendations to county auxiliaries have been sent to Mrs. G. A. Spray, Public Relations Chairman, for distribution to the various county organizations. These pages are rich in suggestions. State chairmen in this district, after reading them, have ordered copies for all their Auxiliaries.

Parsons and Wyandotte Counties are the only news letters received from anywhere in the state this month. Other meetings have been held but they are not noted here because the editor has been given no account of the detail of such meetings. Publicity chairmen will please note that communications must be received by Mrs. W. G. Emery, 23 South 18th Street, Kansas City, Kansas, not later than the twentieth of the month.





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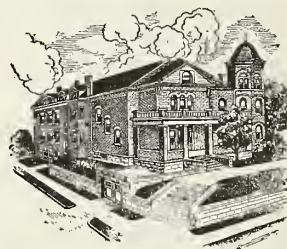
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# THE JOURNAL

of the

## Kansas Medical Society

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NOVEMBER, 1936

No. 11

### SUCCESSIVE SPONTANEOUS PNEUMOTHORAX DUE TO SILICOSIS\*

MAURICE SNYDER, M.D.

Salina, Kansas

As is well known, prolonged inhalation of inorganic dust is capable of producing pathological changes in the lungs and bronchi. The term pneumoconiosis is applied to these affections. When the inhalation is known to be that of silica dust, the term silicosis is used to indicate the form of pneumoconiosis due to this particular variety of dust. In this country silica is regarded as the most dangerous of the dusts and those engaged in industries which entail this dust hazard are now awakening to the fact that protective measures be made to protect the workers against this serious industrial hazard. It has been shown that silicosis may develop in so short a time as one to four years, even when the dosage of silica dust is but moderately high. The lesions tend to progress even after removal from the dusty environment.

The ultimate expression of the inhalation of this dust is the presence of varying degrees of fibrotic changes affecting both lungs. The process is a slowly progressive one characterized by a ramifying fibrosis which follows the distribution of the lymphatics accompanying the branching of the bronchial and vascular trees from their origin in the lobular region to the termination of the lymphatic system in the tracheobronchial lymph nodes. The fibrosis according to Gardner<sup>1</sup>, who has done some most excellent experimental studies in pneumoconiosis, is the result not only of lymph stasis and plugging of lymph ducts but also of a direct stimulating effect on the fibroblasts when dust in sufficient quantity comes in contact with them.

A period of from ten to twenty years may intervene before symptoms referable to the respiratory apparatus occur. The cardinal diagnostic points in pulmonary silicosis are shortness of breath, limited chest expansion, occupational history of exposure to silica and the roentgenographic picture.

As this report chiefly concerns an unusual complication occurring in this disease, no further description of the affection follows and the reader is referred to the work of Pancoast and Pendergrass<sup>2</sup>, Gardner<sup>1</sup>, and Klotz<sup>3</sup> for a more detailed and comprehensive study of this interesting malady.

#### REPORT OF CASE

The patient, a white man aged twenty-nine, entered the clinic on November 10, 1934, complaining of shortness of breath, of three months duration. The dyspnoea had become suddenly worse on the above date when he experienced a moderately severe pain in the left side of his chest while lifting a large truck tire and wheel. The pain did not persist for long, but he became so much more short of breath that relief was immediately sought. He had lost twenty-five pounds in weight in the past year, but stated that he had been working unusually hard during this period and so had placed no significance to this reduction in weight. He had had the usual childhood diseases and had enjoyed good health prior to the onset of his present complaints.

Physical examination showed a well-developed and well-nourished young man who was having definite difficulty in breathing, but who otherwise did not appear sick. He was five feet eleven inches tall, and weighed one hundred and sixty-two pounds. His temperature was ninety-nine and six tenths degrees Fahrenheit, pulse eighty-eight, blood pressure one hundred twenty-six systolic, and eighty diastolic. The face was flushed and the lips

\*Presented before a staff meeting of the Asbury Hospital in Salina on December 12, 1934.

and finger nails were moderately cyanotic. The eyes revealed nothing abnormal, the tonsils were large and there was no evidence of oral sepsis. There was marked retraction of the supra-sternal space in the neck synchronous with inspiratory movements of the chest. The thyroid was not enlarged and there were no palpable cervical glands. The chest appeared symmetrical with fair expansion on the right side, but with expansion markedly diminished on the left. There was increased dullness of the percussion note on the left side and a hyperresonant note throughout the right side. Vocal and tactile fremitus and the breath sounds were entirely absent throughout the left lung fields. Breath sounds were increased on the right accompanied by many musical rhonchi. The heart's position was shifted to the right with the apex located three centimeters to the right of the mid-clavicular line in the fifth intercostal space. The heart sounds were distant, but no murmurs or arrhythmia could be demonstrated. Aortic and pulmonic second sounds at the base were of equal intensity. The remainder of the physical findings were negative.

Roentgenologic studies of the chest (Fig. 1) showed a complete pneumothorax on the left side and marked fibrotic infiltration throughout the right lung. On roentgenoscopy the left diaphragm appeared stationary, the left lung was completely collapsed and occupied the lower, inner portion of the chest cavity along the spinal gutter.

Because of the marked lung findings without evidence of accompanying constitutional reaction as fever, tachycardia, and toxemia, the patient was questioned with greater detail, especially in regard to his past occupations. It was found that he had four years ago worked for a period of eight months as a sand blower in an aeroplane factory. During this time he had worn a protective mask while at work, but stated that after removing the mask there was always a considerable quantity of sand dust deposited in and about his nose and mouth.

With the occupational history of exposure to silica dust together with roentgen and clinical findings, a diagnosis of silicosis complicated by a left spontaneous pneumothorax was made. A tuberculin test and sputum examination was done with negative results. The blood count showed 4,600,000 erythrocytes, 9,600 leucocytes, and the hemoglobin, ninety per cent. The urinalysis was normal.

As the patient was having marked air hunger, a thoracentesis was done, November 13, 1934, aspirating 450 cc. of air from the left pleural cavity. Initial manometric readings showed a slightly negative intrathoracic pressure of less than two millimeters of mercury. The patient experienced marked relief following this procedure, and two days later 450 c.c. of air was again withdrawn. A roentgenogram of his chest, taken after removal of air, showed about a sixty per cent reexpanded lung. The patient was put to bed and supportive measures given. On December 11, 1934, one month later, a subsequent roentgenogram (Fig. 2) revealed a completely reexpanded lung. He had by this time gained thirty pounds in weight, and was feeling fine, so was allowed to return to light work. His temperature during this period of rest, and while at work, remained normal. He continued to feel good except for slight dyspnoea on exertion, until December 14, 1935 when he had a sudden recurrence of pain and air hunger, and examination at that time revealed a pneumothorax on the opposite side (Fig. 3). Air was withdrawn from this side, thereby allowing the right lung to partly re-expand. Relief lasted until February 6, 1936, when there was an exacerbation of symptoms, thought to be due to a further collapse of the right lung. No aspiration was performed following this attack, in order to allow more time for healing to take place. On February 27, 1936, an emergency call was made to the patient's home, where he was found in extremis, having marked difficulty in breathing and becoming rapidly very cyanotic. Examination showed a normally functioning left lung and a right pneumothorax, about the same condition found at the examination made three weeks previously. 1,200 c.c. of air was rapidly removed from the right side. The intrapleural pressure, although not measured, appeared to be greatly increased, for when the needle entered the pleural space the outrush of air nearly pushed the plunger out of the syringe. The patient was again relieved and has remained comfortable to date, without further recurrence of pneumothorax, although he still experiences some dyspnoea on unusual effort.

#### COMMENT

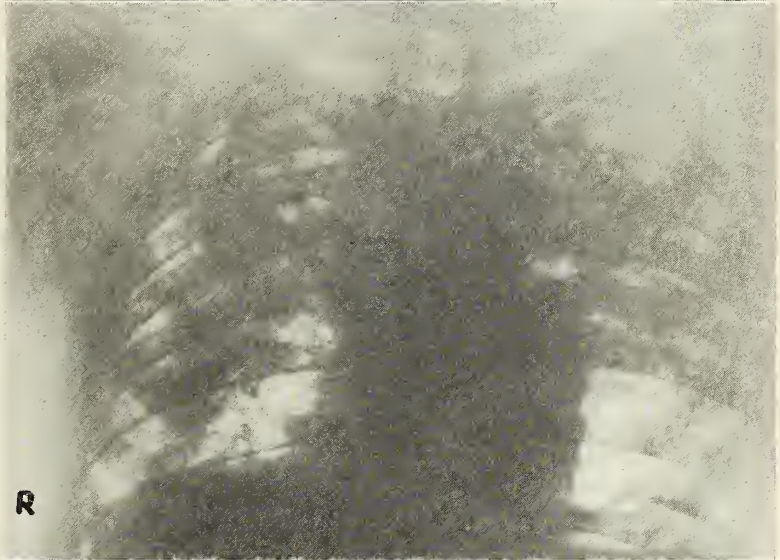
Spontaneous pneumothorax as a complication of pulmonary silicosis is only casually referred to in the literature. According to the



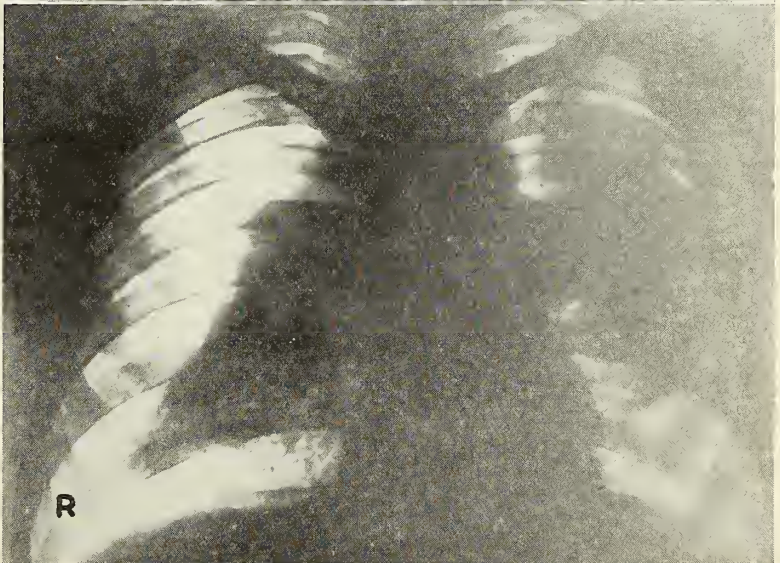
**Fig. 1.**—Roentgenogram taken November 10, 1934, showing left pneumothorax.



**Fig. 2.**—Appearance of chest on December 11, 1934, with left lung reexpanded.



**Fig. 3.**—Same chest on December 14, 1935, showing pneumothorax on opposite (right) side.



reports, bilateral and successive pneumothorax occurring in this disease is indeed a rare finding.

Schlomovitz, Glickman, and Wolff<sup>4</sup> in 1934, reported a fatal case of simultaneous bilateral pneumothorax due to silicosis, in a rock driller, and in a complete review of the literature, could find no other such cases reported.

One can readily understand the circumstances under which spontaneous pneumothorax develops in inflammatory affections of the lungs. In pulmonary tuberculosis, the inflammatory process may extend through the visceral pleura and allow the lung to collapse. The writer is aware of the fact that there is a distinct disposition for tuberculosis to be a complicating factor in advanced forms of silicosis. Tubercles, in such cases, located near the surface of the lung, could ulcerate and perforate, thus readily explaining the occurrence of pneumothorax, were this true in these cases. No clinical evidence of tuberculosis was found in the case under discussion. Brulé<sup>5</sup> reported a case of spontaneous pneumothorax due to silicosis which came to autopsy, in which careful examination of the lungs failed to show the presence of any tuberculous pathology.

An explanation of the process whereby pneumothorax developed in this case is, of course, somewhat hypothetical. The most likely conception would appear to be the rupture of an emphysematous bleb, occasioned by the increase in intrapulmonic pressure which came on due to the lifting of a large tire and wheel, thereby allowing the escape of air from the lung into the pleural cavity.

The last episode of extreme respiratory embarrassment, when the intrathoracic pressure was found greatly increased, was probably the result of a valvular pneumothorax in which the tissues in the vicinity of the perforation acted as a valve which permitted air to enter the pleural cavity during inspiration, but during expiration the valve closed so that no air could escape. As a result, air accumulated on this side under pressure, caused a shift of the mediastinum towards the left which produced a marked insufficiency of pulmonary ventilation on this side.

#### CONCLUSIONS

A case of successive spontaneous pneumothorax due to silicosis is described. It is suggested that rupture of an emphysematous bleb,

caused by heavy lifting, was the mechanism responsible for the pneumothorax.

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### PROBLEMS IN THE TREATMENT OF HAY FEVER\*

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No fundamental contributions have been made to the treatment of hay fever since Noon and Freeman's introduction of specific pollen therapy. Many details of the chemical, immunological and clinical problems have been investigated, resulting in refinement of technique, accuracy of diagnosis and improvement in therapy.

#### CHEMISTRY OF POLLEN

Blackley<sup>1</sup> was the first to submit the pollen theory to a rigid scientific investigation. In forming conclusions to certain questions he proved pollen to be a cause of hay fever, but he did not have an answer to the important question: "To what special substance in pollen is the supposed toxic action due"? This question still remains unanswered.

Many years ago, Heyl<sup>2</sup> endeavored to determine whether there existed in ragweed pollen any specialized chemical component which could be regarded as the actual excitant of hay fever. He concluded that "the application of a systematic scheme of plant analysis to ragweed pollen had yielded about twenty-seven well defined substances, but with the exception of the coloring substance and possibly proteose obtained from the water-soluble fraction, none of these substances appeared to represent any chemical specialization in this cell".

In 1932, Cook and Stull<sup>3</sup> suggested that the

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active principle in pollen extracts is that of a protein and that an accurate index of the strength of the solution could be determined by precipitating the protein nitrogen by phosphotungstic acid. Coca<sup>4</sup> took issue with this and stated: "In a number of consistent experiments we have seen such a rapid dialysis of phosphotungstic acid-precipitable nitrogen as to make it certain that by far the greatest part of it is not native protein".

Last year Spain and Newell<sup>5</sup> built an ultra-filter which holds back the colloidal particles, i.e., the protein. Ragweed pollen extract was forced thru semi-permeable membranes of cellophane. They found the filtrate to be inactive, while the colloidal residue retained almost all the original activity. Since the filtrate gave a precipitate with phosphotungstic acid, it is probable that the degree of activity is not exactly parallel to that of precipitated nitrogen.

Benjamin, Van Dishoeck and German<sup>6</sup> contend that, "When pollen extract is filtered through a protein-tight celloidin membrane by means of pressure, positive skin reactions can be obtained with the filtrate in all hay fever subjects". If the pollen extract was mixed with a colloid (blood serum, egg albumin or gelatin) the mixtures caused a strong positive cutaneous reaction in patients who were not previously sensitive to the extracts or to the colloid alone in the dilutions used. The results of this experiment suggests that the active principle of pollen extract is in a small molecule, which ordinarily diffuses with the cytoplasm of the cell. The addition of the colloid enlarges the molecule and it becomes non-diffusible, or antigenic.

The experiments of Caulfeild<sup>7</sup> show that the whole problem is not simple nor readily solved. After working for many years with the various chemical fractions of ragweed pollen, he observed that in a series of cutaneous sites passively sensitized, desensitization readily follows persistent treatment of that site. But desensitization to a fraction, did not necessarily leave the site desensitized to the whole extract. He concluded that skin test active substance is not single, but multiple and that the reagins are likewise multiple.

The substance in pollen that produces hay fever is easily extracted and although it is the most potent of all known substances capable of inducing a biochemical reaction, its chemical nature is unknown.

## IMMUNOLOGY OF HAY FEVER

If the treatment of hay fever is to be improved, answers must be given to the following questions: First, why does an individual develop hay fever? Second, what causes the development of the sensitization mechanisms? Third, how is the body sensitized?

The fundamental cause of hay fever symptoms is that of antigen antibody reaction. The reaction takes place locally in the mucous membranes of the nose and paranasal sinuses. Here are located the cellular fixed antibodies. Circulating anti-substances which are cellular expressions of the local condition may be present in the serum. Anti-substances can also be demonstrated in the anaphylaxis. These immune bodies are called "antibodies" in anaphylaxis and "atopens" in hay fever. The possible differences in the nature of their origin and other immunological characteristics are still in dispute. Some believe that the immunological reactions of hay fever can be compared with the phenomena of anaphylaxis in animals; others insist that hay fever is totally different<sup>8</sup>. Whether the atopens will eventually be identified with antibodies, or as Coca<sup>1</sup> suggests, as separate reaction substances peculiar only to the so-called atopic phenomena, can only be determined by further study.

## VARIABLE FACTORS

1. Extra Pollen Sensitivities.—In addition to the chemical and immunological problems there are a number of important, but variable factors which operate in each individual hay fever case. The importance of these factors cannot be estimated from the history or the skin tests, but is usually revealed during the hay fever season. Therefore, the first year of pollen therapy should be designated as the trial year. Various problems in the treatment of hay fever should be carefully explained to the patient, so that if he does not do well on specific treatment he will be in sympathy with the program and will cooperate in solving the variable factors.

Recognition and control of the extra pollen factors is one of the chief reasons for the improvement in the methods of treatment of seasonal hay fever. Since the patient apparently inherits the tendency to become sensitive and not necessarily the specific sensitivity, he may, and in fact does become sensitive to substances other than pollen. Multiple sensitivity some-

times changes an apparently simple hay fever problem into a most complex one.<sup>9</sup>

The pollen factors in any community at definite seasons are more or less constant, but the extra pollen factors vary greatly from various foods or drugs to almost any type of inhalant. Some suspect food as aggravating their condition. Others know that certain foods may be taken throughout the year without producing symptoms, except during the pollen season when it exaggerates hay fever and in some instances produces asthma. Unless the reaction to food is quite definite and occurs immediately, the patient is seldom aware that it is the cause of increased symptoms.

The importance of these secondary food factors may be briefly illustrated. A patient who had taken ragweed pollen extract in pre-seasonal treatment for two years was seen during the first week of last September. He had been informed that he had started treatment too late and therefore the dosage was not great enough to protect him. An inquiry as to the dosage revealed that he was receiving a sufficient amount for his protection and his symptoms were analyzed for extra pollen factors. It was found that milk, chocolate and fresh peaches were the complicating factors, the removal of which, together with the same pollen therapy resulted in satisfactory relief.

Another strictly seasonal hay fever and asthma patient was completely relieved of symptoms by injections of ragweed and pigweed extract. During the pollen season tomato, when taken in the smallest amount would precipitate an asthmatic attack within 20 minutes, while at other times he ate tomato with impunity.

Various inhalants such as dusts, animal danders, feathers, face powder, as well as microscopic hairs and scales from butterflies, moths and other insects to which patients become sensitive, may prevent the relief of symptoms by pollen therapy alone. There are many causes of seasonal hay fever which are apparently due to pollen but are actually due to seasonal foods, dusts, moulds, or insects. In 1928, Parlato<sup>10</sup> showed that the dust from the caddis fly caused typical hay fever, and last year Feinberg<sup>11</sup> demonstrated that the same disease could be produced by various moulds. While these instances are not common they do occur and should be considered before treatment is instituted.

Patients with multiple sensitivities present

the most difficult problem because it is often almost impossible to determine the extra pollen factors during the first pollen season. Therefore, it is always desirable to have the patient's maximum dosage built before the onset of the season. Then if he is not sufficiently relieved, other factors may be considered. Failure in the treatment of hay fever may often be turned to success by the control of extra pollen factors.

2. Sensitivity of the Patient.—Another important problem in hay fever therapy is the determination of the degree of sensitivity of the patient. This varies greatly in different patients and also to different substances in the same patient. There is no method at present for measuring this important factor. Attempts should be made to estimate it before the administration of pollen extract in order that the treatment will progress normally and the patient not suffer from improper dosage. The degree of sensitivity may be roughly estimated by a history of the severity of the clinical symptoms and the cutaneous reactions to pollen extracts of known dilutions. It is generally known that an absolute parallelism between the patient's condition and his skin sensitivity does not always exist. For example, a patient may show a weak cutaneous reaction to a strong pollen extract and yet suffer a severe systemic reaction from a small dose of a weak dilution of the same extract when given subcutaneously; the reverse is also true. A large cutaneous reaction may result from a scratch test of a weak pollen extract and yet the patient may tolerate large doses of concentrated dilutions when given subcutaneously. It appears that the skin test roughly estimates the reagin concentration in the blood but in no way indicates the irritability of the shock organs.

In general, the extremely sensitive patients will obtain good results with a small dose of weak dilution while those less sensitive may require larger doses of a rather strong dilution. The two types described represent the two extremes and each patient receiving immunizing treatment will eventually be classified some where between them. There are no set rules in administering pollen extracts. It is not possible to estimate accurately the number of doses necessary in any case. The schedule of doses should be so flexible that the patient's tolerance will be reached with a minimum number of injections and without large local or severe systemic reactions.



When more is learned of the atopic reagins and the mechanism of their reaction, the degree of sensitivity may be more accurately measured and it may be possible to estimate the tolerance dose with little or no discomfort to the patient.

3. Pollen Content of the Air.—The next variable factor in the treatment of hay fever is the pollen content of the air. It varies from day to day and from year to year, depending on the wind and weather. Following a heavy rain the air is practically free, while on windy, sunny days there are large amounts of it in the air. This fluctuation often accounts for the peculiar variation in symptoms in strictly pollen hay fever patients and makes an evaluation of pollen therapy very difficult. As a rule, patients are worse during the days when the pollen content of the air is high or they may become much worse near the end of the season. Since it is impossible to eliminate hay fever pollen it is necessary that the patient's contact be reduced to a minimum by one means or another, in order to insure good results from specific therapy.

The amount of pollen to which a patient is exposed will often determine the relative success of treatment. For instance, it is much easier to protect a bank clerk who works in a comparatively cool and closed room than a railway mail clerk who contacts great quantities of pollen while at work in the car. Both may be worse in the same locality during a severe season than during a mild one.

For example, in Kansas City last year (1935) the ragweed pollen count of over 7,000 pollen grains per cubic yard of air was the highest on record. Patients with slight, or no symptoms in previous years were very uncomfortable last fall and many hay fever patients developed asthma for the first time. This was a great contrast to the drought year of 1934 when many of the regular patients were moderately disturbed for only a few days at the peak of the season. The high count that year was 640 pollen grains per cubic yard of air.

Most patients will be greatly improved or entirely relieved in a different geographical location where there is a lower concentration of pollen. A sufferer who was quite uncomfortable in Kansas City during the drought year of 1934, was free of symptoms in Portland, Oregon, during the severe ragweed season in Kansas City in 1935. Durham<sup>12</sup>

has found that Portland, Oregon, and Seattle, Washington, are the only cities of 87 localities studied in the United States that were entirely free from air borne ragweed pollen.

Air conditioning and pollen filters of various types have been introduced during the past few years, and while none is perfect they often help supply air with a minimum amount of pollen. If air filters are not cleaned and given proper care they frequently become inefficient and are worse than no filters at all since they continuously supply pollen laden air. To test their efficiency, vaseline covered slides may be exposed and studied for pollen. If a patient will sleep in a pollen free room each night and remain there at least during the early morning hours on sunny, windy days he may avoid many severe hay fever and asthmatic attacks. Air conditioning in pollen diseases is helpful, at least as long as the patient remains in the pollen free air, but symptoms occur soon after returning to the outside. The period of freedom depends on the sensitivity of the patient and the pollen content of the air. Air conditioning should be used only as an adjunct to, and not as a substitute for, specific desensitization.

4. Desensitization.—The last variable factor to be considered is that of specific treatment. The principle of desensitization operates both in anaphylaxis in animal and hay fever in man. Decreased sensitiveness by repeated injections with the antigen may be easily, completely and permanently accomplished in anaphylaxis. Desensitization in the hay fever patient is slower, relative and transitory and does not reach the completeness that it does in anaphylaxis. Since the effect of treatment of hay fever does not correspond with that of anaphylaxis, it has been suggested that the process be termed "hyposensitization". That there is an increased tolerance to the pollen extracts is shown by the fact that the patient can tolerate a great deal more at the end than he could at the beginning of treatment.

Further proof that the treatment of hay fever is not a true desensitization is demonstrated by the fact that an excessive increase over the highest dose given will almost always produce a systemic reaction. Frequently, when the patient's tolerance has been established there can be no increase in dosage regardless of all the preparation made to raise it. Whether the limits were reached early in treat-

ment with a small dose or later with a larger one, the limits of tolerance are clear cut and may remain for years.

That hyposensitization is relative and transitory is demonstrated by the fact that when treatment is interrupted the tolerance diminishes rapidly. While building the patient's tolerance in preseasonal treatment it is usually unwise to increase the dosage after a fourteen day interval or to repeat the last dose after a three or four week interval. This is a general rule and varies for each patient. The penalty for overstepping the tolerance is nearly always a systemic reaction, and while such a reaction is undesirable, if proper precautions have been taken it need not be a real danger. Some use epinephrine and a tourniquet for each injection; this is not necessary and may be unwise. Epinephrine not only tends to permit an overdose resulting in a delayed systemic reaction, but also may interfere with the local reaction which may be important in producing certain protective factors that the injections tend to stimulate.

In perennial treatment the patient's tolerance has been gradually reached by the preseasonal method and is maintained by repeating the high dose at an increasing interval. The interval varies from two to four weeks and must be carefully determined for each patient. The high dose is then given at the determined interval throughout the year. Perennial treatment has the advantage in that it probably builds a more permanent and lasting tolerance.

Hyposensitization merely raises the threshold of tolerance to the responsible material and its success depends on the degree of the patient's clinical sensitivity, the amount and nature of the atopen to which he is exposed and his response to treatment.

Although hyposensitization treatment of hay fever fails to approach the ideal results which might be attained by a true desensitization, its benefits have been proved clinically. The results are usually not as satisfactory as those obtained by complete avoidance of the offending substance, nevertheless, it offers a means of attack by which the patient obtains relief.

#### SUMMARY

Although the chemical nature of the active substance of pollen is unknown and the immunology of hay fever is a controversial problem much progress has been made in the treatment.

Variable factors must be recognized and controlled. Hay fever patients are primarily sensitive to pollen but the majority have complicating extra pollen factors.

Results of perennial treatment tend to increase the chances for permanent relief by building a more lasting and permanent tolerance. While the mechanism of protection is not understood it has been demonstrated by clinical results that specific treatment is effective.

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#### PRE-OCCUPATIONAL EXAMINATIONS\*

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Pre-occupational or pre-employment examination is not a new idea or a new practice; it has been a generally accepted requirement in determining fitness for service in the Army and Navy for at least the last hundred years. With the development of the present industrial era it became evident that physical standards were necessary if one was to operate a steam locomotive. It became perfectly evident that visual acuity and color perception were essential physical characteristics in an engineer. Without them, an engineer would constantly endanger many lives, even his own life, and much valuable property.

From these limited beginnings in pre-occupational physical examinations the practice has now become universal in all industrial

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establishments. It has followed closely the development of power machines of all kinds. It is just as evident that the operator of a "shop mule," as an industrial tractor is sometimes called, when he drives down the aisles of a busy shop floor should be able to see and act as promptly as the operator of a railway locomotive.

About the only place where pre-occupational examinations are not required is on the public highways. At the present time any one who can make a "first payment" and buy a license plate may drive an automobile any time in almost any place in this progressive country of ours. He does not have to see very much, he may be stone deaf, he may not even be sane. A private industrial concern would be driven out of existence if through the incompetence or carelessness of its employees men were killed or maimed in anything like a similar proportion to the men, women and children of the community.

Because a man is perfectly fit when he is twenty years of age, and is physically able to do any sort of work, does not mean that in five, ten or twenty years he will still be able. Human machines, just like other machines, change with age. Fortunate for him, for the industry in which he is employed and the community in which he lives, his youth, muscular strength and agility are replaced by something much more valuable. He will no longer be able to do the stunt of standing on the seat of a speeding motorcycle—he will have developed sense enough to know that such a stunt is dangerous and serves no useful purpose—but he will have developed the mechanical skill that makes it possible for him to build a perfectly balanced cycle, which for ordinary purposes makes for safety, durability and efficiency.

It does no good to examine a man after he has become disabled. When a machine breaks down it is taken apart and the worn-out or broken parts are replaced by new ones, but there is no "spare parts" department for the human machine; there is no such thing as "replacement" for the sons of Adam. The answer is: Watch the human machine by periodic physical examination. When there are signs of organic wear or damage, study the job and the environment, and make such adjustments and set up such safeguards as careful study may indicate. If the job requires too great muscular effort, relieve this strain by

mechanical aids. If there are occupational health hazards incident to the job, control or eliminate the hazards. Adjustments are always possible where conditions are known and are understood by intelligent management.

No one questions the justice of the idea that accidental injury is as much a part of the cost of manufacture as the breaking of a tool. Most countries and most of the states of this country have enacted laws and set up legal machinery for determining the cost of accidental injuries through a regular system of compensation; and it is likewise becoming generally accepted that loss due to illness or death of a workman, where the disability or death is due to an illness peculiar to his occupation, is chargeable to the job.

In the administration of the compensation plan for disability due to accidental injury it seems only fair that there should be a knowledge of physical defects at the time of employment. In view of the fact that in our middle-aged male population, irrespective of occupation, there is a hernia incidence of at least 4 per cent, it cannot be considered just to consider all such physical defects as accidental and chargeable to any particular job. Surely pre-existing hernias should not be so charged. It does not seem unreasonable, then, to think that pre-employment examination for the purpose of recording such physical defects is important and necessary.

Likewise in the application of occupational disease laws, the present job cannot be assessed justly for disability due entirely to exposure on some previous job. Disability due to occupational disease is not as simple or direct a problem as disability due to accidental injury, but again the only possibility of reaching anything like a just conclusion is through a knowledge of physical condition, not after disability has occurred but at the time of employment and at intervals during the period of employment.

This makes industrial medical service an extremely important function. If this work is done with the proper understanding and in the proper spirit it can be a real and valuable service to the individual applicant or employee, to the industry for which he hopes to work or is working, and to the community. On the other hand, if this job of physical examination is done badly for any reason it can result in injustice and misunderstanding,

misery and trouble for all—the man, the industry and the community.

Medical service in industry began about forty years ago. At first it was surgical only, and most of that was simple first aid. Health service as distinct from surgical came later, but because the problem of sickness was complicated and difficult this part was mostly without definite plan. Even physical examinations were hurried and superficial; they were really little more than inspections. It soon became evident, however, that the care of the injured must be good care if the length of temporary disability and the degree of permanent impairment were to be controlled.

From this step the adoption of the present standard was easy—the best of whatever care is necessary as long as needed. Undoubtedly compensation laws have had a lot to do with establishing this practice. Compensation is determined by the severity of the injury, the length of the disability and the amount of permanent disability. It is perfectly evident that compensation is increased or decreased by the quality of this service. Hence, only the best pays.

Health service, or medical as distinct from surgical, which heretofore has been of relatively less importance than service for the injured, is rapidly becoming of greater importance economically. In a well-supervised factory the lost time on account of injury is less than one day per man per year. Sickness, however, still causes from eight to ten days lost time per year. Of course, by no stretch of the imagination could one charge industry with all lost time due to sickness, but the time has come when workmen, management and compensation boards must be able to determine what and how much of the disability due to sickness is definitely occupational in origin.

This problem is not simple and never will be anything but difficult and complicated. A practical and fairly satisfactory solution can be reached, however, if the economic importance is appreciated, the necessary equipment provided, and properly trained personnel assigned to the job.

The equipment of the plant doctor's office must include all that is thought necessary for any first-class doctor's office, not forgetting an x-ray machine capable of taking reasonably good chest plates. The doctor must be well trained in the conventional way and be ac-

ceptable to the best community hospitals; in addition, he must have good judgment and a well-controlled temper. He must be blessed with that which all doctors are supposed to have, but unfortunately some do not—a sincere and evident interest in his job and a real liking for plain, ordinary human people.

This sounds like a lot of needless specifications, but a physician who is going to give good industrial service not only must have the respect of management, but—most of all—must be able to convince workmen that he is not only qualified for his job but is sincerely interested in their health problems. While the plant doctor will not disregard the best interests of all concerned, his primary duty is that of counsel and friend to the workmen. If for any reason this relation of doctor and workmen changes, the usefulness of the doctor is over.

Physical examination can no longer be a matter of superficial inspection. In fairness to the man and in fairness to his employer, the job of examination must be done well and accurately.

Does all this mean that only the man with a reasonably normal physique will be given employment? No, but it does mean that the old idea of "fitting the man to the job" will be supplemented by "fitting the job to the man." Physical capacity must no longer be thought of in terms of brawn, but it must be measured by intelligence, skill, judgment and loyalty. Steinmetz made the world more comfortable in spite of a crooked spine; Robert Louis Stevenson suffered long from tuberculosis and died of it, but in spite of that he made and continues to make glad the hearts of millions of children, both young and old.

We have to take men as they are; there are few indeed who can be rated as perfect physical specimens. There is plenty of work for all if we get out of the habit of thinking in terms of some conventional standard. We must fit jobs to human capacity—not the capacity of a perfect physique but the capacity of the great mass, both perfect and handicapped.

There may be a few men in the world who can and do discard their automobiles as soon as they show a few fender scratches, in spite of the fact that the machines are really more efficient mechanically than the new ones, but their neighbors—and even those who sell them the new cars—are not impressed thereby.



The wise management of an industrial establishment learns to see behind the obscuring camouflage of crooked fingers, thick eyeglasses and dulled hearing of the old tool designer. When a foundry superintendent has a sudden rush of orders and needs an additional crew, does he want a bunch of young college athletes? No, he wants experienced molders—the more experienced the better. Of course an old foundryman has a few scars and may have even a moderate fibrosis of his lungs, but in spite of these scars of toil he is the kind of soldier who makes it possible for management to win the battle of industrial competition.

I do not need to list the common defects that are found in any group of men applying for jobs, and I think I have made it clear that the knowledge of these defects is not for the purpose of keeping men from employment. Occasionally an applicant is found to be suffering from some contagious or infectious disease, and of course he should not be working at any job; he is sick and working would be dangerous for him and his fellow employees.

The great occupational bugbear today is dust disease, particularly silicosis. Wide-spread publicity of all kinds—newspapers, radio, even the movies—has frightened great numbers of people, workmen, employers, and even the doctors. The only group who have not been frightened are lawyers of a certain kind.

Far be it from me to minimize the importance of dust exposure, particularly the type of dust that is known to produce disability or death in less than an average lifetime. I regret the current impression, however, that because a half million men in the United States at some time or other have had an exposure of some degree to silica dust, therefore all these men, or even a considerable percentage of them, are doomed to disability or death because of silicosis. If this were true, how about the farmers from the Pan Handle to North Dakota when, as occasionally happens, there is a short dry spell and the prairie zephyrs begin to “zyph”?

Seriously, routine physical examinations, both of applicants and employees, together with the occupational history, point the way to the danger spots in occupation. If the hazard is relatively important, fit the job to the man—make it safe. This can and will be done. If for no other reason, compensation for industrial disease will force the issue. No longer is it necessary to grind on sandstone; emery

grinding can be and usually is done without serious hazard. With modern equipment sand blasting can be made as safe as any other shop job; jack hammers in quarries and mines can be run with water or equipped with effective dust exhausts, and so on down the list. It seems evident that sufficient medical and engineering talent can solve any of the occupational health hazards.

The modern concept of industrial relations is based on fairness, frankness and honesty. Industrial management can understand the relative importance of any occupational health hazard only through the reports of its medical department, and the knowledge thus gained must be used for the benefit of the workmen—not to their disadvantage. Their benefit means better and safer working conditions—control or elimination of hazards—and just compensation where there is actual occupational disease disability. All experienced managers know that the poorest and worst industrial relations policy is to allow some workman to lose his job because he is about to become disabled because of some occupational health hazard.

Records of the physical condition of employees must be kept, tabulated and studied. It is only by such records that accurate and convincing data can be accumulated about any health hazard. It rarely happens that an occupational health hazard is conclusive and positive because of a single spectacular case; these hazards are usually evident without this case for demonstration. It is the type of hazard that has a cumulative effect over a long period, that is less evident, more subtle, but none the less serious, that requires long and accurate study. Again industry through its medical advisers must not forget that the use of such records can serve to improve the relation of management and workmen, but if used to the disadvantage of the workers may spoil these relations.

In the last few years this country has seen a remarkable development in the legal machinery for determining and applying compensation for industrial injury. Many of our present industrial boards are no longer content to sit and listen to what is presented at a set hearing. They have felt the urge and real necessity of studying the common problems outside the board rooms. They are rapidly becoming better arbitrators, not so much because of what they have learned to

glean from a maze of evidence but because of their personal knowledge of factory hazards and the effects of industrial exposure. They know the value of independent and unbiased investigations, the help of a board's own medical advisors, the value of scientific data from a recognized fact-finding institution.

Some day all such arbitrators will be appointed only when they can qualify in accordance with a legally determined set of standards, and when once appointed they will continue for life, their removal being possible only for some very important cause. Such a board should be supplied regularly with the facilities for study and investigation of the industrial accident and health problems in the community they serve.

All those who have had industrial board experience know the fundamental importance of reliable and exact knowledge of the physical condition of an applicant for compensation, not only at the time of the hearing but for a preceding period—the longer the better. Records of reliable previous examinations are of the greatest importance. If even a fairly just decision is to be rendered in the type of disability due to long years of exposure, detailed history of employment and physical changes is necessary.

The management of a modern, progressive industrial organization expects and wishes to pay its just obligations. Frequently it seeks the help of an industrial board to determine the amount of its obligation to an injured employee. There is rarely any doubt as to the justness of a decision where all the facts, particularly the fact of physical condition, are available.

It has been said before that this is an industrial age; most of our principal cities are largely industrial; directly or indirectly the greater part of the population of this country and its institutions of learning are supported by industry. Even those who think of themselves as entirely separate from industry depend on industry for their present standard of living, for what are now considered ordinary conveniences and comforts—food, clothing, heating, air conditioning, refrigeration, telephones, radios, transportation, and many others. Nothing less than an unspeakable catastrophe could change this. The trend is toward more rather than less industrialization.

It follows, then, that we all—the entire

nation—must of necessity be interested in the problem of industry, in the unfortunate things incident to present industrial practice, in those who are injured or otherwise become disabled because of the hazards of their industrial occupation. It is our job to collect the facts and interpret them as best we can by means at our command, to develop out of these interpretations practicable plans for solving our industrial problems, particularly those in which life and health are involved, and to make them available for all industrial establishments, regardless of size.

To summarize, and in conclusion then, it is believed it can be successfully contended that the safety of the man in his working place and at his occupation, the economic safety of the industry and the ability of compensation boards to judge fairly in cases of injury or illness claimed by a workman depend largely upon (1) the physical condition of the man when he entered his employment, (2) the physical exposures during his service at this occupation, as interpreted by periodic physical examination, and (3) the physical condition of the applicant at the time disability is claimed.

We can not change present trends in industrialization. We can, however, solve the problems of safety and health of occupation in industry. The wise course, then, is for us to accept and acknowledge the problem, study intensively all those places where health is excessively or needlessly endangered, and through careful analysis of the facts of physical condition and physical exposure work together for longer, happier and more productive lives. We should not forget the military axiom that the great general is not he who leads the largest number into battle but he who sacrifices the least number to win.

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Public Health is not our divine right. It is a state right. We can have it, however, if we wish, but if we fail to grasp our opportunity we can not complain when state immunization, pre-school round-ups, tonsil clinics, etc., appear. If each one of you tomorrow would inventory your own practice and plan to immunize against diphtheria and smallpox all babies under one year of age and arrange to examine all your children of pre-school age for correctible defects, you would contribute not only a great Public Health service, but make a very positive attack against State Medicine.—Bulletin of the Academy of Medicine of Cleveland.



## RAMMSTEDT'S PYLOROPLASTY LOCAL ANAESTHESIA\*

WILFRED COX, M.D.

Wichita, Kansas

Hypertrophic pyloric stenosis was first described by George Armstrong in 1777. The first modern description was by Hirshprung in 1888. The first Rammstedt operation was performed in 1912.

In infants, dying of unoperated pyloric stenosis, there is no change in the tumor. Gastro-enterostomy relieves the symptoms but produces no change in the tumor. (Wollstein). Pyloric stenosis has occurred in a seven months fetus and three times in the same family. The tumor is a developmental hyperplasia of the circular muscular layer. Muscle spasm also plays a part.

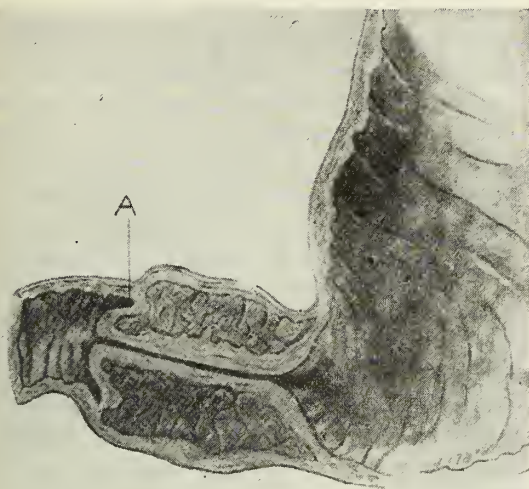


Fig. No. 1. Shows projection of tumor into the duodenum.

Hypertrophic pyloric stenosis usually produces symptoms in an infant two to four weeks of age. It is more common in a first born male.

The symptoms are as follows:

a. Vomiting. (No bile, projectile); b. visible peristalsis. (Left to right, upper abdomen); c. loss of weight; d. constipation; e. decreased urination. There is occasionally a palpable tumor and the pyloric obstruction can be demonstrated by x-ray examination.

The preoperative and postoperative care is very important. Fluids, salt solutions, and

glucose should be given under the guidance of a pediatrician.

The Fredet Rammstedt operation can easily be done under local anaesthesia. All instruments should be ready before the operation is

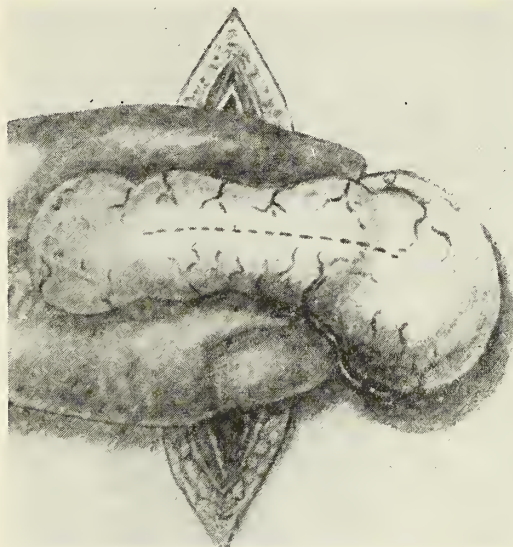


Fig. No. 2. Shows method of grasping tumor.

started. A right rectus incision about two inches long is used over the area of the tumor. The hypertrophied pylorus should be grasped in the left hand between the thumb and first finger and a longitudinal incision made into the muscle. Then the muscle should be split down to the mucosa. The handle of a knife,



Fig. No. 3. Shows the mucosa bulging into the incision.

thumb forceps, or Kelly forceps may be used to separate the muscle. It is important not to cut through the mucosa into the duodenum.

\*Presented before the St. Francis Hospital staff September 14, 1936.

The case that I have to report is a colored male first born baby, one month old. He had symptoms of projectile, vomiting, fever, and constipation for two and one-half weeks. He had lost weight consistently. The characteristic peristaltic waves in the upper abdomen were present. No definite mass could be palpated.

The Fredet Rammstedt operation was performed under local anaesthesia. A right rectus incision, two and one-half inches long, over the pyloric area, was used. The pyloric tumor was incised and the muscle split to the mucosa with thumb forceps. The raw surface covered with omentum and the abdomen closed in layers.

The patient continued to have fever for two weeks. Otherwise, the recovery was uneventful. The preoperative and postoperative care was given by Dr. Menehan.

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### LYMPHOGRANULOMA INGUINALE

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and

W. M. MILLS, M.D.

Topeka, Kansas

The following case of lymphogranuloma inguinale is being reported as an example of a disease which is becoming more commonly recognized particularly in the south, but also in the other parts of the country. Where it was formerly considered a rarity, it is now generally conceded to be the cause of a number of lesions formerly attributed to gonorrhea and syphilis.

The patient was a white married woman, forty-nine years of age, whose previous health had been good. In September, 1934, she consulted Dr. E. H. Decker for a sore of three months' duration on the left labium majus. This lesion was an ulcer about one-half inch in diameter, having an elevated indurated border. No glands were palpable in either groin. Blood Wassermann negative. Removal was by actual cautery, and wound healed in normal manner.

In December 1935 she returned, complaining of enlarged and tender lymph nodes in the right groin. There were no other enlarged glands, and no evidence of a local recurrence of

the lesion cauterized over a year before. She was running a normal temperature. The tentative diagnosis at this time was one of metastatic carcinoma, or an inguinal abscess of lymph gland origin.

About three weeks later the groin had become more painful and more tender, and the skin was reddened over the involved area. She was admitted to Christ's Hospital on January 3, 1936. Wasserman test was negative; RBC 4,160,000; WBC 8,200; Hb 85%; urinalysis negative. On January 4, 1936, under a general anesthetic, exploration of the right groin was carried out, and an abscess found. The wall was made up of necrotic tissue from broken down lymph glands. The wound was packed open to insure adequate drainage. A biopsy of the abscess wall was reported "Chronic Inflammatory Tissue". Under drainage the pain decreased, and she was taken home on January 14, 1936.

All seemed to be going satisfactorily for a short time, then the drainage seemed to become more profuse, and bloody, and had an extremely disagreeable odor. The wound showed no tendency to heal—rather it became gradually larger—and no fresh granulations appeared. At this time she was up and about, and did some of her housework.

About February 1, 1936, when the condition was becoming worse rather than better, it seemed quite probable that we were dealing with something more serious than an ordinary pyogenic abscess. Accordingly a Frei intradermal test for lymphogranuloma inguinale was done, with a strongly positive reaction. She was started on a course of intravenous tartar emetic on February 3, 1936. The initial dose was one cc. of one per cent solution, and this was increased one cc. each dose until a five cc. dose was reached. Injections were given three times a week. The dosage was maintained at five cc. given three times weekly, for about four weeks. During this time there had been a gradual increase in the size of the ulcer, and several new places in the right groin and right labium had opened spontaneously. The drainage was thin, bloody, and still had an offensive odor, though not as bad as a month before. In the left groin there was an increasing tender enlargement of the glands, and this enlargement also ruptured spontaneously, about February 28, 1936. The dosage of tartar emetic was then increased to a maximum tolerated dose of nine cc., and injections were given daily for a



time, when she became nauseated and unable to eat. The dose was cut down to her tolerance, and meanwhile the lesions became continuously larger, and more painful so that she became confined to bed.

As there was no improvement with the tar-tar emetic, but rather the condition became gradually worse, it was decided to try the intradermal Frei antigen treatment. Accordingly 0.1 cc. of the Frei antigen was given intradermally every three or four days, beginning April 5, 1936. She had at this time developed an edema of the right lower extremity, probably an elephantiasis from destruction of the inguinal glands. As she was unable to even move about in bed on account of pain (which was requiring codeine for relief), she was readmitted to the hospital, on April 8, 1936. The antigen treatment was continued, and the skin reactions from these intradermal injections were much more strongly positive than the original Frei test two months previously, giving an area of erythema and induration about three-fourths of an inch in diameter, which persisted for from five to seven days.

was some edema of the left leg. On April 18, 1936, her right foot was cold and cyanotic,—apparently an arterial obstruction in the lower portion of the tibial artery. On April 21, 1936, after gradually becoming weaker, she died.

This case is quite typical of the disease in its continuous progress downward in spite of treatment given. Reports of series of cases of lymphogranuloma inguinale are most consistent in demonstrating that there is little favorable response to any of the known means of treatment. The most encouraging reports of treatment have been from the use of the Frei antigen as an intradermal injection, though it can hardly be considered a satisfactory means of treatment at the present.

### THE STATUS OF PERSONS WITH SINUS BRADYCARDIA\*

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A rather common casual observation in examining people has been that many persons, who seem more physically fit than others, present slow resting heart rates. Some present resting pulse rates as low as thirty, forty-five and forty-eight; many are below sixty and rates between sixty and sixty-eight are quite common. It is easy to imagine how this could be a manifestation of increased circulatory reserve along with, for instance a slight arterial hypotension, since both would allow a greater margin before embarrassing rates and pressures were reached in moments of effort. Intracranial lesions, heart block, digitalis effect, jaundice, sinus artery sclerosis and other abnormal states might be the cause of such findings, but obviously many people presenting bradycardias are quite normal in every way and their slow heart rates simply indicate efficient circulatory mechanisms.

That I might learn something of the frequency of apparently normal bradycardias, and also more about their significance as concerns life expectancy, I have recently reviewed some of my records, and have communicated with the medical directors of twenty-five leading American life insurance companies. I was prompted in the study by the answers a number

\*Presented before the Douglas County Medical Society August 6, 1936, in Lawrence, Kansas.



Figure 1

The size of the sinuses increased continuously in spite of any and all treatment, and those in each groin were about two inches deep. In addition there were other sinuses on the suprapubic area and labia. (Fig. 1.) The edema of the right leg became worse, and there

of physicians who examine candidates for life insurance policies gave when interviewed. They were asked if they recorded a resting pulse rate of fifty-five or sixty if such was the actual heart rate of a candidate whom they considered to have no physical impairments. Most of them told me they would record the pulse as sixty-eight or seventy because they thought such a figure would not arouse criticism from the medical directors whereas they felt the lower figures might cause inconvenience later. Despite this tendency which would suggest that insurance companies might never receive records of applicants with bradycardias, one finds in a rather recent Medical Actuary report—a series of 347,131 cases listed as having heart rates between fifty-five and sixty-five.

The instructive monograph of Boas and Goldschmidt entitled, "The Heart Rate" affords ample proof that the heart rate of normal persons varies within wide margins. Though ample minute output, in rest and activity, is the essential requirement of a satisfactorily functioning heart, ordinarily such estimations are only indirectly implied. As a matter of fact many such basic physiologic considerations are simply pigeon-holed and as far as practical purposes go—are forgotten—to be made use of perhaps at some future time when some generally accepted simple technic for determining such function is presented. Even if minute output studies should become generally practiced, we would continue to be interested in other studies which suggest ample minute output, especially all phases of the patient's history, his blood pressure, heart rate and special studies including laboratory, x-ray and electrocardiographic studies.

Wenckebach called 180 a critical rate for tachycardias. No doubt a critical rate for tachycardias could be named much easier than could one for bradycardias, though Paul White said "rates of forty or under deserve attention". This paper does not intend to imply any critical rate for bradycardias, but merely to present a few facts showing that slow heart rates may be well within the range of normal, and to cite facts and comment in that regard. No doubt the output per beat of hearts varies greatly and probably the same heart may show variations in its output at different moments. X-ray studies show variations in the size of the same heart in moments of great stress and after—but beat output cannot be accurately inferred

from the calculated size of the heart since the thickness of heart walls varies greatly. In a bradycardia the beat output would be an important factor determining a so called critical rate.

Recognized monographs on cardiology dismiss sinus bradycardias saying (to again quote Paul White as an example), "this is due chiefly to preponderance of vagal action on the sino-auricular node". He says heart rates of thirty to sixty are normal in some individuals, and it is a physiological reaction to rest, sleep, vagal (carotid) pressure in the neck, ocular pressure, and sometimes to cold and fright. It is an occasional reaction to convalescence from certain infectious diseases like influenza, especially in young people, and also often after childbirth.

The records of 100 normal obstetrical cases cared for in a local hospital, show pulse rates of under sixty in twelve per cent of cases at sometime in the first few hours after parturition and during the same period twenty-one per cent had pulse rates of sixty to sixty-five, making a total of thirty-three per cent with heart rates of sixty-five or less.

Over a period of six years in my records of the hearts of about 1200 college students that I have examined, it has been apparent that bradycardia was a common finding at rest in individuals who had records of being athletes or who had engaged in strenuous physical tasks over long periods. Some students with slow resting heart rates however did not give any history of heavy work, athletics, etc. It was noteworthy that sturdy youths presenting bradycardias had records of fewer serious illnesses than the average. Basal metabolic studies were made on several such individuals and they were found to be within the range of normal. Electrocardiograms on the same students showed good conduction time, no evidence of myocardial damage and in general the tracings could be considered normal. Resting heart rates of less than sixty were found in three per cent of 700 young men examined since 1933, and rates of sixty to sixty-five were found in 16.7 per cent of this group making a total of nineteen per cent with pulse rates sixty-five or less. In the apparently athletic individuals with bradycardias, following exercise the heart rate returned to the resting level often in a minute or ninety seconds—and in this quick return some arrhythmia was noticed. Electrocardiograms on several of these normal young men showed the arrhythmia to



be S-A Nodal, and the P-R distance was unchanged. I mention this since some exercise test is always indicated in studying persons with slow pulses. Immediately following exercise the acceleration in rate per minute averaged thirty-nine in 700 students. This is based on a fifteen second count made immediately after thirty seconds of stationary running which is a familiar type of exercise with young men in school today. One should remember in exercise tests that in recording acceleration counted immediately after exercise and then in two minutes—wide variations are possible if one examiner counts the beats for fifteen seconds—another for thirty seconds and another for sixty seconds. Obviously it is necessary to state when quoting changes in heart rate following effort—whether the count is based on single heart cycle time as is possible in electrocardiography, or in fifteen second or other units of time.

These facts are not strange or new to many of us, and in periodic examinations of healthy individuals we have many times observed sinus bradycardias in elderly persons who would inform us that they had always had a slow pulse rate. Several members of the same family are often seen to exhibit this finding. Whether increased vagal tone thru carotid sinus reflex or otherwise, or lack of sympathetic tone is the factor in these cases or what influence vagus-like substances in the body play in these cases, I do not know, but one outstanding fact is evident—that a fair percentage of apparently normal healthy individuals have slow heart rates.

To gain some idea of the attitude of the medical directors of American life insurance companies on the subject of sinus bradycardia, three questions were asked. They were asked if they ever accepted candidates for life insurance with resting heart rates of sixty-five or of sixty. Twenty-five answered the question and all said yes, except one who said he would not accept applicants with rates of sixty, two directors noted that such cases would have to pass exercise tests before they would be accepted. The second question was, "What would be your reasons for 'rating up' or not accepting an applicant of twenty-two, whose resting heart rate was fifty-four, who otherwise presented no physical abnormalities, and who presented a negative past medical history, favorable family history, and whose social history showed he had engaged actively in athletics in

school and had worked as a farmer during vacations and since leaving school?" Seventeen out of twenty-five said they would accept the risk without question. One said he might postpone the acceptance, one said he would accept the applicant, but if his age had been over forty or if the policy would have been for \$25,000 or more, an electrocardiogram would be demanded. One would question all cases with heart rates of fifty-four or less. Five would require electrocardiographic studies.

The third question asked was, "If electrocardiographic studies demonstrated bradycardias in applicants to be regular sinus (S-A) rhythms would you attach any unfavorable significance to the bradycardias?" Seventeen directors answered that they would attach no unfavorable significance to such bradycardias—and of the seventeen one said he would be favorably impressed. One director said if the applicant was over thirty years of age, regardless of the electrocardiogram, his department would not issue a policy. Another said he would accept a risk whose heart rate was not under forty-five, provided the electrocardiogram was satisfactory but he would be suspicious if the applicant was over forty-five years of age. Another director said he had no criticism of such cases but would rate them as substandard if the applicant's age exceeded forty-five. One company would view such cases favorably, provided the heart rate was fifty or over. Another would attach no unfavorable significance but would scrutinize the P-R distance on the electrocardiogram and would require that no change in the P-R distance occur after exercise, and would insist on a definite pulse increase after exercise. Another said he would postpone any applicant with a heart rate of fifty-four until he had been observed and he further said the applicant's age would be important. Another said he might postpone the acceptance of such persons pending observation. One director avoided the issue somewhat by saying he would be concerned with the possibility of fatty heart, myocardial changes or heart block, but one can infer that he attaches no unfavorable significance to bradycardias per se if not associated with myocardial damage.

In addition to answering the questions just reviewed, my communications from the medical directors of a representative group of insurance companies went further. Apparently

## PRESIDENT'S PAGE

To the Members of The Kansas Medical Society:

The Council during the past month has appointed official representatives in each of the thirty-five counties of the state not now organized as separate county medical societies. This, in our opinion, is a particularly forward step in medical organization. A method is presented thereby wherein each county of the state may receive bulletins and communications of the Society simultaneously, may meet to discuss and initiate projects for their own counties, and may in other ways develop strong local organizations for prompt and efficient handling of business, economic and legislative functions. Another important advantage of the plan is the fact that present county medical society affiliations are not affected, and that present multi-county organizations may be continued for easier and better facilities in presenting scientific programs.

Two other important happenings have occurred during the past month: The Society has been invited by Mr. G. Clay Baker, Kansas Commissioner of Workmen's Compensation, to appoint a Medical Advisory Committee on Workmen's Compensation. This committee, which will be appointed in the near future, should be able to accomplish a great deal in promoting efficiency and cooperation in the handling of medical problems incidental to compensation cases. A Society Committee on Venereal Diseases is announced in this issue of The Journal, which will cooperate with the Kansas State Board of Health and lay groups in much needed assistance on this important problem.

If we may be privileged to do so, there are three suggestions which we would like particularly to call to your attention at this time. One, that your society hold regular and frequent meetings with interesting and extensive scientific programs during the coming year. Another, that it appoint committees and establish other mediums to study and engage in public health activities, in the solution of medical economic problems, and in establishing the county medical society to its rightful place in every community. Finally, that your society take an active part and lend every effort in accomplishing its part of the current legislative program.

H. L. Snyder, President.



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## EDITORIAL

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### ANNOUNCEMENTS

The Editorial Board desires to present the following announcements pertaining to The Journal:

1. In accordance with the new Constitution and By-Laws adopted at the last meeting of the House of Delegates, a fifth member has been added to the Editorial Board. The new member is Dr. Lucius E. Eckles, Topeka, who is a graduate of the Harvard University School of Medicine and a specialist in pediatrics.

2. The Journal, as of January 1, 1937, will substantially increase its advertising rates. It is hoped that the additional income to be obtained therefrom, will permit several contemplated improvements in the publication.

3. Effective with the December issue The Journal will appear on eighty-pound paper stock instead of the present forty-pound stock. This change, it is hoped, will provide easier reading and better appearance.

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### CANCER CLINICS

The problem of group opinion for the sick has interested the medical profession for many years. With the development of specialties the solution has been worked out to the extent that there are few physicians now relying wholly upon their own resources in the diagnosis and treatment of disease. Either through informal group alignments or by reference to formal clinic organizations, general practitioners are giving their patients the advantages of the services of consulting specialists whom they deem these services necessary. The cancer patient is an example. In many medical centers throughout the United States and Canada special clinics have been organized in approved hospitals for the diagnosis and treatment of cancer. In 1930 the Board of Regents of the American College of Surgeons, on the advice of its Committee on the Treatment of

Malignant Diseases, announced its policy of making the benefits of what is known of cancer available to every cancer patient. Approved hospitals were considered the natural centers in which the modern diagnosis and treatment should be undertaken and a minimum standard for this work was formulated.

The minimum standard for cancer clinics requires that the hospital be of the capacity of one hundred or more beds.

1. ORGANIZATION.—There shall be a definite organization of the service, and it shall include an executive officer and representatives of all the departments of the hospital which are concerned in the diagnosis and treatment of cancer. The services of a secretary and of a social worker shall be available.

2. CONFERENCES.—As an essential feature of the service there shall be regular conferences or consultations at which the diagnosis and treatment of the individual cases are discussed by all members of the clinic who are concerned with the case.

3. PATIENTS.—Reference to the cancer clinic of all patients in whom the diagnosis or treatment of cancer is to be considered shall be either voluntary or obligatory in accordance with the vote of the medical staff or of the governing board of the hospital.

4. EQUIPMENT. In addition to the diagnosis and therapeutic surgical equipment which is required in every approved general hospital there shall be available an apparatus for x-ray therapy of an effectiveness which is generally agreed upon as adequate, and an amount of radium sufficient to insure effective treatment.

5. RECORDS. In addition to the records which are required in every approved general hospital, there shall be additional records of: (a) The details of the history and of the examination for cancer in different regions of the body, such as are indicated on the form records which are recommended by the Committee on the Treatment of Malignant Diseases, American College of Surgeons; (b) The details of the treatment by radium or x-ray as indicated

on the form records which are recommended by the Committee on the Treatment of Malignant Diseases, American College of Surgeons; (c) Periodic examinations at intervals for a period of at least five years following treatment.

6. TREATMENT. The treatment of cancer patients shall be entrusted to the members of the staff of the cancer clinic except in cases in which adequate treatment in accordance with the collective recommendation of the staff of the cancer clinic can be procured otherwise.

There has now been over two hundred and fifty cancer clinics inspected, with the approval of one hundred and ninety-eight. This work is being done by the Albert J. Ochsner Memorial for Clinical Research, a department of the American College of Surgeons. In addition to the list of approved cancer clinics the College of Surgeons has information concerning fifty-two other cancer clinics which, for one reason or another, are not ready for a rating. One hundred and sixteen other hospitals have definitely signified their contemplation of the formation of cancer clinics. This is a part of the nation wide crusade against cancer.

Kansas now has one approved cancer clinic. Other hospitals in the state should endeavor to complete the formation of cancer clinics, with scientific, group investigation and modern methods of treatment. Such organization of our facilities impresses the public with the importance of early recognition of this disease more than anything else that can be done in this crusade against cancer.

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### COMPARE THE DRIVER WITH THE PILOT

If the Navy is the first line of defense of our nation, the medical examiners are the first line of defense of the Bureau of Air Commerce and the flying corps of the Army, Navy, and Marine corps.

In the early days it was thought that any

person who was able to sit in a plane was able to fly it, just as now any person is allowed to drive an automobile if he is sixteen years old.

At the present time, although it is not too difficult to obtain a private aircraft pilot's license, the transport pilot and service flyers no doubt present a combination of physical and temperamental fitness and stability unequalled by any other group of human beings. They represent a line of germ cells most nearly portraying the normal. Examiners for the Army and Navy flying corps are medical officers designated as flight surgeons, and for the Bureau of Air Commerce they are appointed by the President. The opinions of such examiners are final. They are not coerced by the individual, relatives, or politicians to change recommendations.

The commercial carriers want pilots who will not, through physical or mental disabilities, add any risks to their equipment or pay loads. The services want men with proper physiques and temperaments who after the expense of training will be able to carry on for many years; they do not wish to risk their expensive equipment to those unfit. Neither branch wants to make "sky fodder" out of incompetents. An examination every six months or as often as is thought necessary keeps the examiners informed.

To begin with, the service flying-cadet must be a graduate of an accepted college or university. This assumes a certain intelligence at the start. The size and weight of a man is not of great importance in piloting a plane, but there must be a standard size cock-pit and instruments to which men must conform to a working degree. In general, the young man entering the service for training must be without physical defects. He cannot be accepted on the condition that these will be corrected. He can have no history of past serious illness such as tuberculosis, malaria, syphilis, chronic hay fever or asthma, nephritis, organic heart disease or paroxysmal tachycardia which might be brought on again by the strain of flying with its rapid changes in altitude and temperature



and mental stress. The ears must be normal as to hearing and examination with the otoscope. Acute hearing will detect the first signs of error in motor performance. The equilibrium mechanism must function properly. The color sense must be perfect, for he must be able to tell color correctly to read signals without error under any condition of fog, smoke or fire. He must be able to tell correctly the color of the terrain beneath him. Night blindness must be ruled out. The heart is examined by determining its reaction to stress using the Schneider test. The young man must pass a satisfactory rebreather test. The eyes usually are the last to be examined. They must be normal without correction by glasses. Refraction is made with a cycloplegic to rule out errors of over one diopter. There can be no diplopia. Formation flying makes it necessary that there be no abnormality of esophoria and exophoria. The error of hyperphoria can be very slight. The depth perception must be correct within prescribed narrow limits.

The temperament is judged from the family history, the general appearance, and the reaction to the examination but especially by the behavior under flying instruction.

Physical and temperamental unfitness have been reduced to a minimum as a cause of aircraft accidents so far as commercial and service flying is concerned. These factors have been gone into in a sane and civilized way. Likewise, the pilot who "cracks up" because of drunkenness, disobedience to orders, or his own carelessness or foolishness does not get a chance to do it again.

This cannot be said to any sort of degree for automobile drivers. Why not classify all automobile accidents as to the physical and temperamental condition of the persons involved? After several hundred are counted, something of practical importance might be discovered as to what sort of persons should or should not drive a car. One could hardly expect help in this sort of a campaign from the automobile manufacturers. While they seriously try to make the

machines more mechanically perfect, they must have people to sell them to. The insurance companies are taking it seriously for obvious reasons. The police department would seem to be the logical directors of such a campaign, with the aid of "drive surgeons" whose competence and integrity are not influenced by politics.

Inasmuch as the automobile is killing American people at the rate of about three thousand every month, it would seem worth the extra time to give a superficial examination to the prospective automobile driver when he applies for his driver's license, to rule out just the gross physical defects. Such perfection is not necessary or possible for the automobile driver as for the flyer, but the vision should be at least sufficient to read warning and stop signs; color blindness and night blindness could be discovered and information as to the hazard of these people driving be figured out; gross defects in depth perception could be found out and these persons warned against passing cars on busy highways at rapid speeds; gross diplopia could easily be found by the red glass test, and the hearing should be such as will enable recognition of a policeman's whistle, a fellow driver's horn in distress or the whistle of an approaching train. At least when an accident occurs the individual or those responsible should be studied to discover whether a disability exists that makes him or them more likely to cause accidents than other drivers who keep from having accidents.

Those 36,000 dead each year, and the many more thousands of invalids deserve every possible form of investigation as to why they were exterminated or crippled.—*Indiana State Medical Journal*, October, 1936.

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The most formidable weapon that we possess against state medicine, irregular practice, cults and other elements that threaten organized medicine is the conscientious practice of our profession. No amount of protective legislation that we may pass can equal the painstaking performance of our daily tasks.—*Bulletin Acad. Med. of Toledo and Lucas County*.

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## MEDICAL SCHOOL CLINIC

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### ABDOMINAL PAIN DUE TO TORSION OF HYDROSALPINX

MAURICE A. WALKER, M.D.\*

RAY B. RILEY, M.D.\*

Kansas City, Kansas

A married white woman, aged thirty-four, was admitted to St. Margaret's Hospital on July 4, 1936, complaining of pain in the lower abdomen. She had always been well except for an operation for acute appendicitis when fifteen years old. Menstruation had begun at thirteen, and had always been regular and apparently normal. Her last period had ended one week before her admission to the hospital. She had never been pregnant. A history of gonorrheal infection could not be elicited.

On May 16, 1936, she was seized by a sharp pain in the suprapubic region which ceased after five hours. A physician called her attention to a tumor in the lower abdomen. After this first attack, pain recurred about once each week, but was usually less severe and was relieved by acetylsalicylic acid. Between attacks, she had no pain or other symptoms. The tumor persisted without apparent change.

On July 2, the attack began which forced her to come to the hospital. A severe sharp pain in the suprapubic region began abruptly, and was not relieved by twenty grains of acetylsalicylic acid. The pain eased following the hypodermic administration of morphine, but recurred when she arose from bed, shooting down the back of the right thigh.

When examined by us at the hospital, her temperature was 99.0 F.; pulse rate, 86; respiratory rate, 22; and blood pressure 120 systolic, 60 diastolic. Her abdomen was not distended or rigid. A right rectus scar showed no sign of hernia. Occupying the middle of the lower abdomen and extending upward to the umbilicus, an irregular ovoid mass could be seen and felt. It seemed to be somewhat fluctuant but was not tender, and could be pushed to either side. Palpated from the vagina, this mass seemed to extend into the cul-de-sac, where considerable tenderness was present. The body of the uterus could not be

definitely outlined. The cervix was firm, movable, and without scars.

The urine was acid, had a specific gravity of 1.024, and contained no sugar, albumin, or pus. The concentration of hemoglobin was eighty-five per cent; there were, in each cubic millimeter of blood, 4,490,000 erythrocytes and 12,600 leukocytes; of 100 of the latter, sixty-six were polymorphonuclears, thirty-two lymphocytes, and two eosinophiles.

Because of the recurring attacks of pain, absence of deviation from the usual menstrual cycle, fluctuation of the tumor, and the ease with which it could be moved from side to side, a diagnosis was made of ovarian cyst twisted on its pedicle. On July 6, using spinal anaesthesia, the tumor was delivered out of the abdomen through a left rectus incision. It was composed of multiple serous and mucoid cysts. There was some edema but no discoloration from necrosis. The entire mass had undergone two complete rotations on its pedicle. After straightening the twisted pedicle, the tumor was found to be composed entirely of the right fallopian tube. The left tube lay in the cul-de-sac and showed cystic changes similar to those in the right, but it was much smaller. Both ovaries were normal in size and appearance except for some velamentous adhesions from the tubes. Bilateral salpingectomy was done. Convalescence was uneventful. The patient left the hospital July 16, 1936.

Pathologic examination was made by Dr. H. R. Wahl. The right tubal mass weighed 528 grams, and measured fourteen by ten by eight centimeters. The fimbriae could not be identified. The mass was fluctuant, and subdivided into cysts of varying size. Some of these contained clear amber fluid; others contained a grayish yellow gelatinous material. The left tubal mass weighed fourteen grams, and measured 8 by 3 by 1.8 centimeters. Its structure was similar to that of the right. In sections viewed under the microscope, the cysts were lined with cuboidal epithelial cells supported by a fibro-muscular stroma. The diagnosis was bilateral hydrosalpinx.

#### COMMENT

The differential diagnosis of tumors in the midline of the lower abdomen frequently calls for considerable speculation. The first interest, in a woman of child-bearing age, is to rule out pregnancy. Most other conditions justify surgical exploration, although an attempt to

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make a specific diagnosis should be made before operation. The case we have reported illustrates one of the less common conditions which may occur in this region.

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## LABORATORY

Edited by J. L. Lattimore, M.D.

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### PRESENT STATUS OF LIVER FUNCTION TESTS

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Any laboratory test attempting to demonstrate abnormal or diminished function of the liver meets two obstacles; (1) the many functions of the liver and (2) its remarkable reserve power. These two difficulties render most of the theoretically excellent special tests for liver function clinically valueless.

Some of the known functions of the liver are:

1. A detoxifying action on various toxic and non-toxic substances absorbed in the portal area.

2. The metabolism of bile pigments and bile salts.

3. Metabolism of carbohydrates. Conversion of monosaccharides into glycogen, storage of glycogen, conversion of glycogen into dextrose as needed.

4. Formation of urea from amino acids and ammonium carbonate.

5. An intermediate stage in the metabolism of proteins and fats the mechanism of which is not understood.

Theoretically, damage to the liver parenchyma without destruction of Kupper cells as a result of hepatitis should cause impairment of all of these functions except the excretion of bile pigments and salts.

Likewise, extensive carcinomatosis of the liver and cirrhosis should be expected to impair all of its functions. However, clinically, it is a general rule that where one function of the liver is disturbed, the others are also usually abnormal.

Some of the various tests which have been proposed for estimation of liver function include: excretion of dyes such as bromsulphalein,

rosebengal and tetrachlorophenolphthalein; carbohydrate metabolising estimations using levulose and galactose; the bile-pigment excretory function tests such as the icterus index, the van den Bergh test, the urinary urobiligen reaction; excretion of intravenously injected bilirubin. Other miscellaneous tests are still so nearly in the experimental stage that their value clinically has not been thoroughly determined.

In our hands, there are only a few tests which have been given thorough clinic trial and are technically simple enough for performance in a general hospital laboratory. These are: the van den Bergh test, and icterus index; the bromsulphalein test and the Ehrlich aldehyde test for urinary urobiligen reaction.

The use of any dye test of liver function is of no value in the presence of jaundice. In the presence of severe liver damage from cirrhosis or hepatitis, the excretion of the dye is usually delayed. Its chief value is in its use in this type of case.

The detection of hyperbilirubinemia by the van den Bergh reaction and icterus index is of considerable value in obstructive lesions, in excessive hemolysis and in toxic damage to the liver parenchyma.

Urobiligen is found in the urine in some cases of non-obstructive liver damage. Its value has been questioned although several enthusiastic reports on its accuracy have been written.

In testing the multiple functions of the liver, one positive result with a test which has been repeatedly confirmed clinically, is as accurate as if all the tests were abnormal. However, any clinician acquainted with the usually performed liver functions tests has seen cases of extensive liver damage in which none of the function tests were positive. In evaluating the laboratory tests of liver functions, we must keep in mind that a positive test may be of considerable value, while a negative test must be carefully correlated with clinical findings.

Editor's Note—The readers attention is directed to an article by Dr. A. J. Quick of Milwaukee in the Archives of Internal Medicine, March 1936 on "Hippuric acid in liver disease". It appears that this liver function test may prove to be better than those previously described.

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Government in many respects is like the science of medicine—"It is still in the atmosphere of an opinion". Each and every medical society member as a citizen should be a part of our governmental "atmosphere". How? By voting and by passing on constructive advice to local, state and federal officers. Be more than a critical friend of Democracy!—Detroit Medical News.

\*University of Kansas Hospital.

## TUBERCULOSIS ABSTRACTS

### UNDESIRABLE REEXPANSION OF THE LUNG

Progressive obliteration of the pleural space will develop even under high intrapleural pressure of air. Too long an interval between refills, or too small a refill may allow the lung to come out and form contact with the chest-wall. When the pleural membranes have been artificially separated there is a strong tendency for them to adhere when they again come in contact, particularly so in some cases. It sometimes happens, for an unexplained reason, that the absorption of gas is unexpectedly rapid, and at a rate out of proportion to that previously experienced with that case. This is more apt to happen with patients who are coughing more than usual, or are taking more exercise. Once the lung touches the chest-wall, the pleural membranes become rapidly adherent and obliteration of the pneumothorax is the result.

#### CHRONIC EFFUSIONS

In "selective collapse", expansion may easily take place in the same way, since the lower lobe is only partially collapsed and swings out and adheres to the lateral chest-wall, or to the diaphragm below. Also, collapse may be lost through oblitative pleural adhesions in chronic effusions. After fluid has been present for several months, it may become thick; heavy fibrin sediment which is present organizes, pleural adhesions are produced, and the lung is gradually drawn out to the chest-wall. Expansion of this type takes place from below upward, and usually begins in the costophrenic angle. After seeing a few cases of this type, one wonders whether it is not advisable to aspirate routinely the fluid, when it is sufficient in amount, and to replace it with the necessary amount of air. Substituting eleothorax to maintain the compression of the lung is advised by some.

#### REACTIVATION OF OLD LESION

There are few cases of tuberculosis requiring pneumothorax treatment in which the disease is purely unilateral. The reactivation of an old lesion in the contralateral lung or the development of new disease is a constant source of annoyance, and is responsible for having to stop compression in many cases. When there

is a small, or even a moderate-sized lesion, without much evidence of excavation, located in the contralateral lung above the second rib, pneumothorax will usually prove successful. On the contrary, if there is much disease in the lung, field opposite the root zone or in the lower lobe, continued compression is fraught with danger, especially if the collapse is maintained at more than from fifty to sixty per cent.

#### HEMORRHAGE CONTROL

Rubin reports end-results in 324 cases of pneumothorax of two to fifteen years' duration. All were far advanced except a few minimal and moderately advanced cases, in which collapse was used in treating uncontrollable hemorrhage. In 102, or thirty-one per cent, of the cases, pneumothorax had to be discontinued in less than three months' time, due mostly to dense adhesions obliterating the pleural space. Rubin feels that, next to traction from heavy adhesions drawing the lung out and making further successful pneumothorax impracticable, effusions becoming empyematous and reactivation of disease in the opposite lung are about on a parity as a cause of reexpansion.

#### IN CHILDREN

Myers and Levine have reported fifty-two cases of tuberculosis in children treated by pneumothorax. Some of the cases have been treated for several years, but at the time the report was made eleven of this number had been discontinued for the following reasons: seven on account of spread of the disease to the opposite side, three due to the formation of obliterating pleural adhesions, and the remaining patient was killed accidentally.

#### DENSE ADHESIONS

It often happens that the normal lower lobe of a lung can be completely compressed. Dense adhesions, either in the subscapular region or laterally in the region of the third and fourth ribs, prevent collapse of the disease in the upper lobe where it is needed most. High intrathoracic pressure, in which there is definite danger of rupturing the lung, will occasionally cause the air to dissect around and through the adhesions, giving a partial collapse and fair therapeutic results to a small number of cases. In past years we have persisted with this type of case sometimes indefinitely, hoping something could be accomplished. Almost invariably fluid will form which persists in spite



of frequent aspirations. Eventually, tuberculous empyema develops, and the clinical course is unfavorably influenced. We now recommend the discontinuance of refills in these cases, and allow the lung to reexpand, with perhaps advice regarding some other form of surgical collapse. A localized upper thoracoplasty is always to be preferred to a poor pneumothorax in this type of case.

Minnig says, "The formation of pleural adhesions is the one insurmountable barrier to successful pneumothorax and when this makes successful collapse impossible some other form of collapse should be tried".

Internal pneumonolysis is now being successfully used in certain types of pleural adhesions. When the pleural membranes are almost universally adherent by dense, resistant adhesions, this treatment is of no avail. It often happens that a cord, stringlike, or even a broad-band type of adhesion may anchor the partially compressed lung to the chestwall overlying an open cavity. If the adhesion can be successfully separated by the electrocautery and a good collapse obtained, more drastic measures to accomplish satisfactory results may be avoided.

Our results in pneumonolysis, to date over a four-year period, are as follows: Total number of cases operated upon, fifty-nine; in six of this number the work was only exploratory, as the adhesions were of the type which could not be separated; of the remaining fifty-three cases, twenty-eight had cavities, and twenty-seven of this number were closed after the adhesions were cut. Twenty-five cases were without cavities, but adhesions were preventing the collapse of heavily infiltrated or consolidated areas. Of this number the adhesions were successfully cut in twenty-three. Thus, of the fifty-three cases in which division of adhesions was attempted, fifty, or 94.5 per cent, were successfully separated. These results were based upon the following observations: stereoscopic x-ray study of the lung after operation, change in the sputum from positive to negative, gain in weight, improvement in appetite and digestion, reduction in amount of air required, and lengthening of the interval of refills. From these results it would appear that before allowing a lung to reexpand due to adhesions, one would be justified in having a thoracoscopic study made with the idea of having the adhesions separated if they are of a suitable type.

Inconvenience and expense to the patient in obtaining refills may prove to be a major issue in deciding to terminate the treatment. In some sections of the country an experienced operator may not be available when the patients return home from the sanatorium. The fatigue of travelling and the cost of the refills must also be considered, and these may be too heavy a burden to bear.

The condition of the lung before collapse is one of the most important points in considering reexpansion. No case should be voluntarily terminated without first reviewing the old x-ray films, and making a close study of the physical signs and clinical course prior to compression. If extensive disease with a large area of excavation and marked toxic symptoms were present, then the decision becomes more difficult to make. Also, if compression was instituted to control hemorrhage there is always the fear on the part of the patient that the bleeding will recur when the refills are stopped.

*The Indications for Terminating Artificial Pneumothorax, Frank B. Stafford, Am. Rev. of Tuberc., Sept., 1936.*

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## MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.  
of the Medical Economics Committee

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### LLOYD GEORGE WON THE WAR!!

Lloyd George invaded the rights of the working individuals. He bombarded the patient-physician relationship until panels were erected throughout the land. Inside each panel he left a physician, a dentist, a druggist, and a prescribed number of working men.

Certain privileges were accorded the occupants of each panel. The wage earner can have "free" medical and dental care for a definite small fee, which is obligingly deducted from their pay. They may go any time to the physician that happens to be in their panel; else they must take from the balance of their wages to pay another. The physician can accept this type of practice at say, \$2.25 per patient, for a year; get out and rustle his own business entirely or in addition to approximately 1000 of these panel cases. Drugs are furnished from

an approved list, for which the druggist gets approximately \$0.75 per person each year.

Lloyd George won the war; the working people did not win anything. The decline of health conditions proves the assertion.

The working class looks upon the physician as his servant. The panel physician regards these individuals as chattel property. In fact, he may buy or sell the whole lot to another physician. Personal friendship and mutual relationship have been destroyed.

Medical attention, produced at the rate of one patient every two or three minutes, creates little praise for this system. From a waiting room crowded with 40 to 100 patients, all those who want cough medicine step forward and take their bottle. Those who decide that their illness is due to constipation may step up when laxatives are offered. When a physician makes a call and takes time to remove his gloves and lay aside his coat the family recognizes that the patient's condition is serious. There must of course be an elaborate inspection machinery and an administrative commission. The working men however are seldom eligible for such positions. Lieutenants of the War Lords perform this mission and have free access to the patient's records.

The American public, while still privileged to think for themselves, should be provided with the records of all countries that have saddled such systems of Socialized (Compulsory) Health (Not insurable) Service upon the working classes. Yes—Lloyd George (Misguiding Philanthropists and Social Agencies) WIN WARS; From WHOM? For WHOM?

Does Lloyd George patronize Panel Medicine when he wants aid?

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#### FOUR PER CENT

The advertising specialist, in explaining to his friend, how he continued to prosper, told the friend to look down on the busy street below and count 100 people. The task completed, the friend turned to the advertiser who said, about four of those people "think", I get the others.

What Do You Think?

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#### ECONOMY PROBLEM ANSWERED POLITICALLY

Socialized medicine was thrust upon the leaders of the medical profession in England

about 1912. Compulsory health insurance apparently originated with Bismark in Germany about 1883, as a political sop to soothe social unrest. Bismark recognized its future dangers and difficulties, and stated that by the time his plan proved unfeasible he would be dead and some one else would have to worry about the results. Are you going to let the politicians of America answer?

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#### A TOOTHLESS NATION—HOW SOON?

"Under compulsory insurance in England a profit can be made by wholesale extractions, where good fillings could only be done at a loss", states Dr. George Wood Clapp of New York City. "In some European countries dentistry is becoming so unattractive as a profession that there is an insufficient number of young aspirants to replace those retiring".

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#### DOCTOR HANGS HIMSELF

Physician: Please deliver twenty-four tablets to..... Sig: One tablet after meals and bedtime.

Patient: Mr. Druggist, I would like to know why the doctor gave me this medicine. I have used the same kind of pills before and can buy them for 79c. Now you charge me \$1.00.

Druggist: I suggest, Madam, that you talk to your physician about the medicine.

Patient: Doctor, you sent me some tablets; they have the same name stamped on them as the tablets I have been taking for some time. I wasn't getting any results, so I went to you. Now I have paid you \$3.00 and the druggist \$1.00 for the same medicine I have been buying for 79c. The next time I go to a physician I will certainly go to some one who can write a prescription for something besides advertised medicine. Good bye!

Physicians are beginning to realize that their reputation suffers, with many patients, when they prescribe certain popularized preparations; that their patients recognize by the color of the capsule, the distinguishing marks of the pharmaceutical company, or special containers.

In many instances these patients have been so educated by another physician who gave them samples in the original containers or told them to go and buy certain prepared items. An increasing number of physicians are finding



it advantageous to prescribe such preparations in combination with other ingredients.

Are you helping to educate the public to use advertised preparations?

#### THE WORKER'S POINT OF VIEW

The following article, entitled "Making More Able-to-Pay Patients" written by James H. Anderson, Editor of The Kansas City Labor News, is reprinted from the October 10, 1936 issue of the Jackson County Medical Journal:

"Free medical care, including hospitalization, clinics and medicine, supported and maintained by states and local communities, through a general taxation, has to a certain extent existed for ages. Such care and such hospitalization is essential and commendable, and should be continued, but such free service was created for the purpose of giving aid and succor to those financially unable to pay their own way. I believe, and I think you will agree with me, that it was not created or intended for those who were or are able to pay.

Labor is not in favor of charity, the dole or relief for those who are able to work and earn a decent pay, nor in favor of so-called free medical care, whether furnished by corporations employing groups of men and women, or whether supported and maintained by federal, state or local communities, because experience has taught us that such service is not always very satisfactory, and in the long run those receiving such service have to foot the bill anyway, either through deduction in pay or through taxation.

It has been found that physicians, for instance, furnished by the employers, or even by labor and fraternal organizations, as a general rule do not render as satisfactory service as those privately employed by the patient himself. Men of labor as well as others, in case of sickness or disability, prefer to choose their own medical attendant in whom they have confidence and who they know will use all his knowledge, science and ability for a speedy recovery.

I do not believe that labor looks with much favor on compulsory insurance, because it is one of the factors in the production of cheaper labor by the captains of industry, and is generally used as a camouflage to induce the workers to sell their labor for less. Opportunity to work and to earn is the cherished hope of all

members of organized labor. The American Federation of Labor was founded for the purpose of obtaining for its members: decent wages, reasonable working hours and sanitary working and living conditions.

What labor wants is a decent wage—a wage sufficient to meet the requirements of the American standard of living; a wage that will provide sanitary housing, wholesome food, decent clothing; enough to keep the children in school instead of in the sweat shop, clean amusements, medical care, premiums of health, accident and life insurance, and all those other things which are so essential to the wellbeing of mankind, besides some kind of social security that will care for the aged.

But we are now living in a machine age. Labor-saving machines were invented to lift the burden off man, but instead of being labor-saving machines they have become labor-displacing machines—instead of being a blessing to humanity they have become a menace. The human ingenuity, which has given us machines to throw men out of jobs, must give us means to have our people put in the way of being able to earn their own bread, their own medical care, their own necessities of life, yes, even the luxuries of life.

Now, to the medical profession I will say this in all candor and sincerity that, if the working people were permitted to work and would receive decent wages; if the unemployment of those able and willing to work was reduced to a minimum, they could and would, when sick or disabled, be able to employ and pay their own medical attendant, buy their own medicine and pay their own hospital bills. Physicians and surgeons would receive their just and equitable compensation for their services, hospital bills and medicine would be paid by the patients themselves without federal, state or local aid and without taxation being placed on the general public.

What labor wants—a solution which would eliminate the arguments about free or state medical care and charitable institutions, doles and relief—is a shorter work-week, so those who now are idle or employed on government relief work may be able to obtain work in industry and in business and thereby be self-dependent. It is up to the interests who control our finances, industry and business to see to it that the now idle workers be given employment. If not, the socialization of this nation, yes, even worse, the introduction of facism or

communism may come sooner than expected.

It is not so much the unequal distribution of wealth that concerns us. It is the unequal distribution of income from production and distribution that brings about the clamor for socialization, including medical care and hospitalization. The drone draws the lion's share while the bee gathering the honey receives only the crumbs that fall from the rich man's table. If ninety per cent of the able-bodied populace of the United States were gainfully employed; if they were receiving a more equal share of the income from production and distribution and services, there would be no fear of ever getting to the stage of socialization; no fear of free or state medical care, free hospitalization, state medicine, government relief, and no fear of government interfering with business, but until conditions change we may expect almost anything.

These are not Utopian dreams. They are no illusions. They are no wild or fanatic brainstorms. They are logical arguments that can be put into practice only through co-operation of those who work and earn, whether with brain or with brawn. Co-operation means success. Without co-operation there can be no success''.

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## MEDICAL LITERATURE

Edited by Will C. Menninger, M.D.

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### HYPERINSULINISM

A very thorough and complete summary of the diagnosis and treatment of hyperinsulinism is made by Harris. The manifestations of hyperinsulinism are protean and identical with the symptoms reported from over doses of insulin in the treatment of diabetes mellitus and the anamnesis is important in making the diagnosis in mild cases. Low blood sugar readings, before breakfast, one or two hours before meals and in attacks, and the occurrence of a hypoglycemic phase in dextrose tolerance tests, are necessary for proof that the symptoms are due to spontaneous hypoglycemia. Dextrose tolerance tests should be carried out for six full hours before excluding the diagnosis of hyperinsulinism. Sometimes the symptoms are reproduced in the hypoglycemic phase of dextrose tolerance tests. Pituitary, thyroid,

and adrenal secretory interrelations should be considered carefully and hypoglycemia from deficient glycogenesis should be excluded before making a diagnosis of uncomplicated hyperinsulinism. Treatment consists of a moderately low carbohydrate, high fat diet with frequent feedings. Cases that cannot be relieved by properly directed and carefully carried out dieting may be relieved by surgery. Removal of insulinomas, either adenomas or carcinomas, of the islands of Langerhans has resulted in clinical cures and resection of the pancreas relieved the symptoms in about fifty per cent of the reported cases. It is important to make the diagnosis of hyperinsulinism early before the neoplasm of the islands of Langerhans has progressed to the inoperable stage.

Harris, Seale. The Diagnosis and Treatment of Hyperinsulinism, *Annals of Internal Medicine* 10:514-533, October, 1936.

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### TREATMENT OF GONORRHEAL ARTHRITIS

The authors report fifty cases of gonorrheal arthritis treated with artificial fever produced in the Kettering hypertherm. Twenty-six or fifty-four per cent of the patients were relieved of all joint symptoms, eleven, or twenty-two per cent, received some benefit, and thirteen, twenty-six per cent, were not helped. The longest duration of fever in a patient was forty-eight hours, with an average of ten hours for the group with complete relief, twenty-one for those with partial relief, and twelve hours for the third group which showed little, if any, relief. This last figure was reduced by the number of patients who refused further treatment or were discontinued for other reasons. Each treatment lasted from four to six hours, excluding the period of temperature rise. Complications include cyanosis of the head and neck from the large doses of sedatives necessary; alkalosis and tetany, which can be relieved in a few minutes by lowering the cabinet air temperature slightly or by calcium gluconate intravenously; deliriousness and muscular activity leading to additional fever and coma, associated with rapid pulse and fall in peripheral blood pressure; burns of the first degree which occur in about one-third of the patients; herpes labialis involving the lips and the skin about the mouth and chin, and the labial portion of the buccal mucosa; and nausea, vomiting, and anorexia. The authors conclude that fever therapy constitutes a practical, safe, and satis-



factory method of treatment in gonorrheal arthritis, producing cure or relief for a high percentage of patients and reducing the period of disability and discomfort attendant with the disease. The treatment is highly technical and is not to be undertaken without careful supervision by a trained personnel. It is not without hazard, and disagreeable complications seem unavoidable.

Stecher, R. M. and Solomon, W. M. The Treatment of Gonorrheal Arthritis with Artificial Fever, *American Journal of the Medical Sciences* 192:497-510, October 1936.

#### TREATMENT OF CARBUNCLES BY DIATHERMY AND CAUTERY PUNCTURE

The author presents three cases of carbuncles treated by short wave diathermy and cautery puncture. High frequency currents heat body tissues through which they pass thereby increasing the capillary and other vascular supply to the lesion helping the patient to localize the infection. The cautery puncture is used to convert the nondraining infection into an external draining cavity.

After the lesion is covered with several thicknesses of towel, a cable attached to the short wave machine is given three turns at the center to form a coil and the coil is applied in such a manner that the carbuncle occupies the center of it. The current is turned on to the point of the patients comfortable tolerance for about twenty minutes; such treatments given once or twice daily. As soon as the carbuncle develops definite fluctuation, it is drained by the actual cautery puncture. No anesthesia is required. All three of the author's cases occurred in elderly people, all of whom recovered with very little scarring.

Fellman, Morris, M.D.: Treatment Of Carbuncle With Short Wave Diathermy And Cautery Puncture: *American Journal Of Surgery*: 32:3:467-468, June, 1936.

(Abstracted by Leland F. Glaser, M.D.)

#### THE STATUS OF PERSONS WITH SINUS BRADYCARDIA

(Continued from page 457)

the subject interested them. Several men quoted actuary studies which have shown that people with resting heart rates between fifty-five and sixty-five have a lower mortality by some eighteen or nineteen per cent than the average. One director quoted a group of 7,000 with pulse rates of less than fifty-five who had

proven to have a more favorable expectancy even than the group with rates between fifty-five and sixty-five. One physician with forty-six years experience in his department quoted the case of an athletic man whose heart rate was found to be as low as thirty and now twenty-five years later is in perfect health. Several communications informed me that the experience of their companies with persons having bradycardias had been very satisfactory. Several correspondents said bradycardias in large groups of persons past thirty and forty years of age however, had not given as good mortality rates as younger groups, which no doubt accounts for the lack of uniformity in the answers to the questions. Since some insurance statistics show persons who develop bradycardia above thirty or forty years of age to have a poorer mortality rate than the average, whereas bradycardias observed earlier promise a better mortality rate than average; it would seem essential in recording the heart rates of people under thirty or forty years of age to be sure the basal pulse rate was true.

#### CONCLUSIONS

Undoubtedly sinus bradycardia without pathologic cause is a physical asset. Rates of sixty-five and less were observed in nineteen per cent and rates under sixty were found in three per cent of a group of 700 young men, and those exhibiting it gave past medical histories which were remarkably free from serious illnesses. Persons with innocent sinus bradycardia can expect according to Medical Actuary studies about an eighteen or nineteen per cent better mortality rate than the average. The medical directors of twenty-five leading American life insurance companies accept applicants with moderate bradycardias and persons have been accepted with marked bradycardias—one case cited with a resting heart rate of thirty.

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3. Notes made in the Wenckebach Clinic in Vienna, Austria, 1932.
4. Records of medical examination given 700 young men at the Kansas State Teachers College of Emporia, Kansas, since 1933, and special studies on those with bradycardia in this group 1935 and 1936.
5. Personal communications with the Medical Directors of 25 leading American life insurance companies, 1936.
6. Deutsch, Dr. Felix, and Kauf, Dr. Emil., translation by Warfield, Louis M., A.B., M.D., *Heart and Athletics*. The C. V. Mosby Company, St. Louis, 1927.
7. Records from the Obstetric Department, Newman Memorial Lyon County Hospital, Emporia, Kansas.

## NEWS NOTES

### DR. E. G. BROWN INJURED

Dr. Earle G. Brown, Secretary, Kansas State Board of Health, was painfully injured in an automobile accident which occurred while he was driving home from a meeting of the State Board of Administration held at the State Hospital in Winfield on November 9.

He was taken by ambulance to Christ's Hospital in Topeka, where he is now convalescing.

His many friends in the Kansas medical profession will be glad to know that his injuries are not believed to be serious.

### COMPENSATION COMMITTEE

Mr. G. Clay Baker, Chairman of the Kansas Commission of Labor and Industry, has invited the Society to appoint a Medical Advisory Committee on Workmen's Compensation.

It is planned that this committee will cooperate with the Commission in all medical matters pertaining to the administration and settlement of industrial compensation.

Dr. H. L. Snyder has accepted the offer on behalf of the Society and an announcement of the personnel of the committee will be made in the next issue of The Journal.

### OFFICIAL REPRESENTATIVES

The following members have been appointed by the Council to serve as official representatives of the Society in their respective counties:

COUNTY	NAME	ADDRESS
Barber.....	K. R. Grigsby.....	Medicine Lodge
Chase.....	Jacob Hinden.....	Strong City
Cheyenne.....	T. J. Walz.....	St. Francis
Clark.....	I. R. Burket.....	Ashland
Decatur.....	L. C. Tilden.....	Oberlin
Ellis.....	O. A. Hennerich.....	Hays
Ellsworth.....	Alfred O'Donnell.....	Ellsworth
Gove.....	B. S. Morris.....	Quinter
Graham.....	I. B. Parker.....	Hill City
Grant.....	R. H. Miller.....	Ulysses
Gray.....	J. W. Spearing.....	Cimarron
Greeley.....	J. D. Wilson.....	Tribune
Hamilton.....	Charles F. Harrison.....	Syracuse
Haskell.....	J. B. Ungles.....	Satanta
Hodgeman.....	C. B. Wycoff.....	Jetmore
Jefferson.....	G. W. Marks.....	Valley Falls
Kearney.....	G. R. Hastings.....	Lakin
Kiowa.....	C. D. Updegraff.....	Greensburg
Lane.....	E. P. Deal.....	Dighton
Logan.....	W. F. Deal.....	Oakley
Morris.....	C. C. Kerr.....	Council Grove
Morton.....	Clyde O. Meredith.....	Elkhart
Ottawa.....	C. D. Vermillion.....	Tescott
Phillips.....	J. L. Shewmaker.....	Phillipsburg
Rawlins.....	W. C. McIrwin.....	Atwood
Rooks.....	P. S. Brady.....	Plainville
Russell.....	F. S. Hawes.....	Russell
Scott.....	R. F. Kippenberger.....	Scott City
Sheridan.....	G. W. Hammill.....	Hoxie

Sherman.....	M. F. Renner.....	Goodland
Stanton.....	W. F. Hoover.....	Johnson
Thomas.....	James L. Jenson.....	Colby
Trego.....	W. Y. Herrick.....	Wakeney
Wallace.....	Hugo E. Nelson.....	Sharon Springs
Wichita.....	L. S. Ott.....	Leoti

The official representative plan was adopted to provide local organization for business, economic and legislative activities in counties not now organized as separate county medical societies. Each representative will receive copies of all communications forwarded by the Society, will serve in a secretarial capacity on behalf of the physicians of his county, and will be authorized to call meetings of the local profession whenever such is deemed advisable for discussion and institution of projects.

### INSTRUMENT REPAIR

Information has been received that the person conducting the instrument repair racket described in the October issue of The Journal, is still operating in Kansas.

His latest appearance was at Augusta where he utilized the name of J. C. Weaver of Weaver & Company, Kansas City, Missouri.

A request is made that the central office be notified by telephone or telegraph if this person calls at your office.

### M. D. LEGISLATORS

Returns from the recent election show that three members of the Society were successful in candidacies for the state legislature. These members are as follows: Dr. J. B. Carter, Wilson, Senator; Dr. T. C. Kimble, Miltonvale, Representative; and Dr. R. L. Von Trebra, Chetopa, Representative.

### ANNUAL CONFERENCE

The annual conference of state secretaries and editors, sponsored by the American Medical Association, will be held in Chicago on November 16 and 17.

The program will consist of:

MONDAY, NOVEMBER 16, 10 A. M.

Call to Order. Rock Sleyster, M.D., Chairman of the Board of Trustees of the American Medical Association.

Address. Charles Gordon Heyd, M.D., President of the American Medical Association.

Basic Science Laws. Mr. J. W. Holloway, Bureau of Legal Medicine and Legislation, American Medical Association.

The Michigan Filter System. L. Fernald Foster, M.D., Secretary of the Michigan State Medical Society.

The Public Health League of California. Glenn Myers, M.D., Los Angeles.

12:30 P. M. Luncheon.

2 P. M.

Address. J. H. J. Upham, M.D., President-Elect, American Medical Association.

The United States Public Health Service and the Social Security Act. Thomas Parran, M.D., Sur-



# WHEN DEALING WITH CANCER

consider the utility, accessibility and

## LOW-COST OF RADIUM THERAPY

**RADIUM  
THERAPY**  
is of  
Particular  
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in Carcinoma  
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Cervix  
Breast  
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Rectum  
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●  
Epithelioma  
Uterine  
Bleeding  
and  
Fibroids

Our rental plan gives you an adequate radium supply, quickly available, with every requirement for approved technique—new platinum filters—all dosage range in tubes and needles. All applicators are prepared under competent medical and technical supervision. Special delivery express service.

### TYPICAL RATES

Actual time of use	50 milligrams	75 milligrams	100 milligrams
36 hours or less	\$10.00	\$14.50	\$19.00
48 hours	13.00	19.00	25.00
72 hours	19.00	28.00	37.00
96 hours	25.00	37.00	49.00

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# OAKWOOD SANITARIUM

The beauty and quietness of the environment of Oakwood Sanitarium cannot be over emphasized. This makes the Institution ideal not only for nervous and mental patients but for convalescents and rest cures as well. Alcoholics and drug addicts are accepted.

Illustrated Booklet and Rates on Request

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Medical Director   Attending Internist   Business Manager   Superintendent

geon General, United States Public Health Service.

The Children's Bureau and the Social Security Act. Miss Katherine F. Lenroot, Chief, Children's Bureau, United States Department of Labor.

Practical Hints on the Preparation of Manuscripts and Illustrations. Richard M. Hewitt, M.D., Rochester, Minn.

6:30 P. M.

Dinner Conference of Editors of State Medical Journals. Holman Taylor, Secretary-Editor, State Medical Association of Texas, presiding.

TUESDAY, NOVEMBER 17, 9:30 A. M.

Insurance Against Alleged Malpractice. Mr. Thomas V. McDavitt, Bureau of Legal Medicine and Legislation, American Medical Association.

The Scientific Exhibit at Annual Meetings of State Medical Association. Thomas G. Hull, M.D., Director, Bureau of Exhibits, American Medical Association.

#### REFERRED FOR DISCUSSION BY HOUSE OF DELEGATES

Consultation and Correspondence with Bureau of Legal Medicine and Legislation.

Violation of Laws Pertaining to Narcotics.

Representatives from Kansas who will attend are Dr. H. L. Chambers, Lawrence; Dr. W. M. Mills, Topeka; Dr. R. B. Stewart, Topeka; Dr. Lucien Pyle, Topeka, and Clarence Munns, Topeka.

#### IMMUNIZATION PROGRAMS

Diphtheria immunization programs are now being conducted by the county medical societies, or physicians of the community, in the following counties: Atchison, Geary, Russell, Douglas, Jackson, Shawnee, Riley, Elk, Chautauqua, Linn, Labette, Chase, Wyandotte, Mitchell, Rice, Rush, Ness, Lane, Scott, Sedgwick, Kingman, Edwards, and Kiowa.

The Kansas State Board of Health is furnishing toxoid without cost and in most places physicians are receiving \$1.00 per child for administration.

#### BULLETINS

Two bulletins of importance, in addition to legislative bulletins, were forwarded to the secretaries of the county medical societies during the past month.

One of these issued by Dr. H. L. Chambers, Secretary, and approved by the Kansas State Board of Health, pointed out the possibility of a poliomyelitis epidemic in Kansas, offered several suggestions in that connection, and listed accurate information concerning the use of picric acid spray as an immunizing agent for this disease.

The other contained a complete report of current activities relating to the practice of medicine and surgery by cults and unlicensed persons.

#### A. M. A. SCIENTIFIC EXHIBITS

The American Medical Association in a release under date of November 1 invites all members to submit applications for scientific exhibits at the next meeting of that organization to be held on Atlantic City, New Jersey, on June 7-11, 1937.

All applications must be submitted before February 1, 1937, whereupon they will be acted upon by the Committee on Scientific Exhibits. Application blanks may be secured from the Director of Scientific Exhibits, American Medical Association, 535 N. Dearborn Street, Chicago, Illinois.

#### VENEREAL DISEASE COMMITTEE

Dr. H. L. Snyder, President, has announced the following appointments to the new Society Committee on Venereal Disease described in the last issue of The Journal:

Dr. Arthur Gray, Chairman.....	Topeka
Dr. R. M. Brian.....	El Dorado
Dr. O. W. Davidson.....	Kansas City
Dr. Henry Haerle.....	Marysville
Dr. J. E. Henshall.....	Osborne
Dr. G. E. Kassebaum.....	El Dorado
Dr. O. W. Miner.....	Garden City
Dr. H. F. O'Donnell.....	Wichita
Dr. C. O. Shepard.....	Independence
Dr. W. J. Singleton.....	La Crosse
Dr. L. C. Tilden.....	Oberlin

#### LEGISLATION

Legislative Bulletin No. 4, including a questionnaire pertaining to successful legislative candidates, was forwarded to the secretaries of the county medical societies under date of November 3. The returns therefrom are to be tabulated and communicated to the county medical societies as soon as complete information is available.

Copies of the basic science brochure and of legislative bulletin No. 5, which will consist of suggestions for use of this pamphlet, are to be forwarded on approximately November 20.

#### CHIROPRACTIC PROPAGANDA

The following paid advertisement published by the Ellsworth County Chiropractic Association in several newspapers of that county typifies the unfounded and prejudiced arguments employed by that profession to oppose the basic science law:

"WHAT ARE BASIC SCIENCE LAWS?"

READ THIS CAREFULLY

They are laws planned by the medical group to eliminate drugless healing by legislation.

The medical profession wants the right to examine first all those who apply for license in Chiropractic in the subjects of Anatomy, Physiology, Chemistry, Bacteriology, Pathology, Diagnosis and Hygiene. These are the subjects they call the Basic Sciences.

Every applicant for a Chiropractic license DOES take an examination in those subjects under the Board of Chiropractic Examiners.

Why two examinations? The reason is clearly seen!

That Basic Science Laws are drawn up solely for the purpose of forcing Chiropractic and Osteopathy out of existence, can be seen in Section 17, of the Basic Science Law which states that this law



# ACIDOSIS *or* ALKALOSIS?

## *prescribe* KARO

**A**CIDS galore are normally formed in the body and eliminated—carbonic, lactic, phosphoric and sulphuric. They are almost completely neutralized by base from cells, intercellular fluids and blood plasma. The body fluids thus maintain the normal faint alkalinity of pH 7.4.

But the defensive mechanisms of the body capable of preventing changes in reaction may be deranged in disease with consequent acidosis or alkalosis. Acidosis is associated with hyperpnea, diarrhea, dehydration, anoxemia, circulatory or renal insufficiency; alkalosis with excessive breathing, vomiting.

Treatment of acidosis is designed primarily to correct the underlying cause. In most types, fluids and fruit juices with Karo are forced every hour. In cases associated with ketosis (except where it is a disturbance in carbohydrate metabolism, as in diabetes mellitus) 20% dextrose is given intravenously at repeated intervals. In case of diabetes, insulin is given, by some authorities, simultaneously one unit for each gram of dextrose, until the condition is controlled.

Treatment of alkalosis depends upon the cause. The most common variety in children is that resulting from prolonged vomiting with loss of acid, salt and body water. No food is given by mouth except fluids with Karo, and saline intravenously. If alkalosis is the result of alkali administration in the presence of nephritis with poor kidney excretion of salts, large amounts of fluids with Karo will favor excess base elimination. Alkalosis from excess alkali administration is alleviated by forcing fluids with Karo.

In both acidosis and alkalosis, Karo is a carbohydrate of choice in the emergency of treatment. Karo consists of dextrans, maltose and dextrose (with a small percentage of sucrose added for flavor), not readily fermentable, rapidly absorbed and effectively utilized.



Corn Products Consulting Service for Physicians is available for further clinical information regarding Karo. Please Address: Corn Products Sales Company, Dept. SJ-11, 17 Battery Place, New York City.

### CAUSES OF ACIDOSIS

#### EXCESSIVE ACID FORMATION

<i>Acid</i>	<i>Disturbance</i>
Aceto-acetic	Starvation
B-hydroxybutyric	Cyclic vomiting
	Diabetes
	Ketogenic diet
Lactic	Asphyxia
	Intestinal intoxication
	Respiratory failure
	Shock
	Burns

#### DEFECTIVE ELIMINATION

<i>Metabolite</i>	<i>Disease</i>
Phosphate	Nephritis
	Emphysema
Carbonic acid	Respiratory obstruction
	Myocardial failure
	Narcosis

### CAUSES OF ALKALOSIS

#### EXCESSIVE LOSS OF ACID

CO <sub>2</sub>	Hyperventilation
	Tetany
	Cerebral lesions (respiratory center)
	Hysteria
	Excessive crying
HC I	Vomiting
	Pyloric stenosis
	Intestinal obstruction

#### EXCESSIVE INTAKE OF ALKALI

NaHCO <sub>3</sub>	in Pyelitis
	in Nephritis

*From Kugelmass' "Clinical Nutrition in Infancy and Childhood" — (Lippincott)*

does not apply to Dentists, Nurses, Midwives, or Optometrists (Eye Doctors).

Nine States have Basic Laws and their records show that in a few years the real sciences of Chiropractic and Osteopathy will no longer exist within those states.

For over forty years Chiropractic has been the health method of thousands to keep well. Why the sudden desire to strangle it? ? ? No one is a better judge of Chiropractic than the people who use the method to keep well.

The talk that the Educational Standards of Chiropractic must be raised is but a blind to gain control of Chiropractic. The advanced Chiropractic Colleges are teaching four-year courses.

This bill when put in force takes away the right of the public to choose their Doctor in time of sickness by eliminating all Doctors except the Medical.

It would raise the price of health treatment by eliminating competitors and competition.

As in other matters the right of choice should be retained by the people who may be ill.

#### ELLSWORTH COUNTY CHIROPRACTIC —(Adv.)—

It is interesting to note that the authors of this advertisement do not know the correct designation of the basic sciences, that they speak of a non-sectarian board of examiners as a medical board and that although they profess to have adequate knowledge in the basic sciences, they are unwilling to take an examination in these subjects from an impartial board.

#### FOOTBALL

The Ford County Medical Society has arranged with the Dodge City School Board to have at least one physician present at each of the football games played by that school, for provision of emergency medical attention. The Society will also attempt to assist the school board and coaching staff in other ways to reduce athletic injuries.

#### TECHNICIANS SOCIETY

The central office has received the following communication from Miss Bertha Mae Weed in Hutchinson:

"The evening of October 2nd, at Halstead, Kansas, a group of twenty-eight x-ray technicians met and organized what will be known as the Kansas Society of X-ray Technicians. The territory for the present will include that between Larned and Eldorado, and Salina and Arkansas City, although no hard or fast rules will be made, for the technicians outside of these boundaries will be welcome for membership. We are looking forward to a state society in the future, but at this time, hope to keep this one small enough that we can meet frequently. We are affiliating with the American Society of X-ray Technicians.

We are inclosing a copy of the Constitution and By-Laws adopted at this meeting. Our object is clearly outlined here and classes of membership enumerated.

Officers elected are as follows: President, Esther

Hulpieu, Grace Hospital, Hutchinson; Vice-President, Bernice Connolly, 1st National Bank Bldg., Wichita; Secretary-Treasurer, Bertha Mae Weed, 100 W. 1st, Hutchinson; other members of the Executive Committee, Mrs. Monica Irving, St. Francis Hospital, Wichita, and Lottie L. Gaines, Hatcher Hospital Clinic, Wellington.

We would like the sanction of The Kansas Medical Society for our organization, and will welcome any criticisms or suggestions that you may have to offer."

A reply has been made that this matter will be called to the attention of the Council at its next meeting.

#### SEDGWICK COUNTY PAMPHLET

The Sedgwick County Medical Society prepared a four-page pamphlet entitled "Your Doctor and You" and distributed numerous copies to persons attending the Diamond Jubilee Exposition in Wichita on October 7-14.

The pamphlet is attractively presented, and contains the following information:

"The skill and professional knowledge of your family doctor has been acquired by dint of long years of ceaseless, untiring study. First he had a sound preliminary education. Then he spent four years in medical school. He passed rigid state examinations. He served an internship in a hospital. And now in the practice of his arduous profession he must continue constant study to keep pace with the rapid strides of medical science.

"Great advances have been made since the science of medicine was born two thousand years ago. Since 1880 the medical profession has raised the average expectancy of life at birth from thirty-three to fifty-nine years. It has reduced the death rate from tuberculosis by seventy-five per cent. It has eradicated yellow fever and other terrible plagues from every civilized country.

"Your doctor can give you the benefit of his knowledge and the amazing discoveries of science only if you assist him by consulting him regularly concerning preventive measures. Fewer mothers would die in childbirth if they consulted their doctor early in pregnancy. Fewer deaths would result from cancer if every man and woman would have a periodic health examination, and thus discover these tumors in early stages when they could easily be cured with surgery or x-ray. Heart disease would take a less fearful toll in America if the busy man would ask for a check-up from his doctor at least once every year. No babies would die from diphtheria or smallpox if parents would allow the doctor to protect them with the simple, safe, and inexpensive immunizing procedure he has for their protection.

"Depend upon your family doctor for all advice pertaining to matters of health. Don't experiment. Don't waste your money on patent medicines, most of which are worthless. Don't allow anyone other than a regular doctor of medicine with proper training and education to attempt to diagnose or treat conditions in that marvelously complex body of yours. Beware of the doctor who advertises. The one who advertises for patients admits his in-





## NEUROLOGICAL HOSPITAL

Twenty-Seventh and The Paseo

Kansas City, Missouri

Modern Hospitalization of  
Nervous and Mental Ill-  
nesses, Alcoholism and Drug  
Addiction.

## THE ROBINSON CLINIC

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G. WILSE ROBINSON, Jr., M.D.

# THE Lattimore Laboratories

Topeka, Kansas

J. L. LATTIMORE, M.D., Director

M. GERUNDO, M.D., Pathologist

A. C. KEITH, B.S., Toxicologist

## **PATHOLOGY, HEMATOLOGY, BACTERIOLOGY, SEROLOGY, PARASITOLOGY AND CHEMISTRY**

Treatment set for Rabies.....	\$10.00
Friedman test (for pregnancy) .....	\$ 5.00
Tissue examination .....	\$ 5.00
Wassermann-Kahn .....	\$ 2.00

Post-mortem service and toxicology. Complete blood chemistry. Containers mailed upon request—24 hour service on all tests.

### OFFICES:

Topeka, Kansas    El Dorado, Kansas    Sedalia, Mo.    McAlester, Okla.

Founded 1896 by Dr. Hubert Work



WOODCROFT HOSPITAL, PUEBLO, COLO.

A modern, newly constructed  
sanitarium for the scientific  
care and treatment of those  
nervously and mentally ill, the  
senile and drug addicts.

CRUM EPLER, M.D.

Superintendent

ferior professional skill, else he would not be advertising himself.

"Your doctor can perform seeming miracles—but he is no magician. His successes come as the result of years of study and the unceasing effort of patient workers in research laboratories who continue the search for new cures. He makes no radical claims because he respects the awful power of his enemy—disease.

"Beware of doctors who claim to belong to an exclusive 'school' of healing and who do not believe in the science of medicine. The only difference between a doctor of medicine and a practitioner of a non-medical cult is that the doctor of medicine uses every proven method of treatment while the cultist says the medical method is wrong, despite its spectacular contributions to human welfare, and that he has a 'new' exclusive theory. Non-medical practitioners of the so-called 'drugless' systems are those who have not gone to the trouble of completing the long course of study necessary to secure the degree, Doctor of Medicine. The regular medical profession alone has been responsible for every advancement in the science of healing since time began."

An announcement has also been made that reprints of the pamphlet may be obtained by interested physicians at an approximate cost price of \$10.00 per 1,000.

### HYGEIA

The Kansas Medical Auxiliary has requested that the following information be called to the attention of all members:

1. The Auxiliary receives a commission for each subscription it secures for Hygeia.
2. These commissions are allocated to a fund which is used to provide complimentary copies of Hygeia for schools and libraries in the state.
3. The Auxiliary would appreciate receiving credit for any subscriptions that members may care to give or obtain.
4. Subscriptions may be given to any local Auxiliary member or be forwarded to Mrs. T. D. Blasdel, State Hygeia Chairman, Parsons.

During the month of December a special Christmas rate of \$1.25 per year is offered to all members of the American Medical Association.

### COMMITTEE MEETING

A meeting of the Committee on Control of Cancer was held in Topeka on November 4. Members present were: Dr. H. L. Snyder, President, Winfield; Dr. C. C. Nesselrode, Chairman, Kansas City; Dr. Milton B. Miller, Topeka; Dr. Marion Trueheart, Sterling; and Dr. Howard Snyder, Winfield. Mrs. Donald Muir, Anthony, Chairman of the Kansas Women's Field Army Against Cancer; Dr. F. L. Dector, Representative of the American Society for the Control of Cancer; Dr. Earle G. Brown, Secretary of the Kansas State Board of Health; and Clarence Munns, Executive Secretary of the Society, were also present.

Contemplated activities of the Kansas Women's Field Army Against Cancer, an organization sponsored by the American Society for the Control of Cancer, were dis-

cussed and plans were completed wherein the Society will supervise and assist this project.

Decision was also made that this committee shall recommend to the Council, the sponsorship of a cancer control program similar to the one conducted last year by Dr. Burton T. Simpson, Buffalo, New York, and Dr. Charles F. Geschickter, Baltimore, Maryland. Plans for the event provide that the program would be held during March, 1937, that two out-of-state speakers would be secured, and that six lay and six professional meetings would be presented at various strategic geographical locations of the state.

A recommendation was made to Dr. H. L. Snyder, President, that six additional members of this committee be appointed in order that the committee may have representatives in each Councilor District.

### COUNTY MEDICAL SOCIETIES

At a meeting of the Butler-Greenwood County Medical Society in ElDorado on October 16, Dr. G. B. Morrison, Wichita, spoke on "Statistical Comparison and Practical Considerations of Transurethral Prostatic Resection".

The Clay County Medical Society held its regular monthly meeting in Clay Center on October 14, with Dr. P. T. Bohan, Kansas City as guest speaker. His topic was "Uses and Abuses of Internal Medicine". Approximately fifteen members and guests were present.

Members of the Coffey County Medical Society met in Burlington on October 22. A tribute was read to the late Dr. H. T. Salisbury, and a program followed consisting of discussions on the various phases of "A Normal Delivery". Dr. J. H. Rinehart, Lebo, spoke on "Prenatal Case"; Dr. A. H. Gray, Burlington, "First Stage"; Dr. H. M. Benning, Waverly, "Second and Third Stages"; Dr. H. G. Herring, LeRoy, "Post Partum Care".

A meeting of the Crawford County Medical Society was held in Pittsburg on October 2. Dr. Herbert Smith, Pittsburg, was a speaker and immunization of children was also discussed.

Dr. O. E. King and Dr. A. D. Danielson, both of Herington, were speakers at a dinner-meeting of the Dickinson County Medical Society held in Abilene on October 15.

Representatives of the Ford County Medical Society and Dr. R. B. Stafford of the Kansas State Board of Health, met recently with the county commissioners of that county to consider plans for adoption of a full-time county health officer, a public health nurse, and a sanitary officer under the Social Security Act.

The Marion, Harvey and McPherson County Medical Societies held a joint dinner-meeting in Marion on October 28. Guest speakers on the program were as follows: Dr. L. A. Calkins, University of Kansas School of Medicine, Kansas City, spoke on "Cancer of the Cervix"; and Dr. Vincent Williams, Kansas City, Missouri, talked on "The Abdominal Masquerades of Heart Disease".



# VITAMINS IN CANNED FOODS

## V. VITAMIN G

● By 1926, it was apparent that the anti-neuritic vitamin B of earlier investigators was in reality a combination of several vitamins. In that year, Goldberger postulated the existence of a second vitamin associated with the so-called vitamin B "complex" which he designated as the P-P or pellagra-preventive factor. Evidence has been offered that this factor—subsequently named vitamin G—exerts a specific action in the cure and prevention of human pellagra and a similar condition in experimental animals (1).

Since Goldberger's pronouncement, considerable research has been devoted to resolution of the vitamin B complex and, what is equally important, to testing the specificity of vitamin G in the cure of human pellagra (2).

The findings in the laboratory and clinic have not, in some respects, been entirely in accord (3).

As reports of further investigations appeared in the literature, it became clear that the vitamin B complex had been aptly named. At one time claims were made for the existence of as many as eight factors in this complex (4).

While later work has reduced this number, we know today that what has been consid-

ered in the past as vitamin G is, in reality, a combination of several factors. A relation between experimental cataract and vitamin G has been described and, recently, another associated factor was postulated (5).

The significance of these individual factors in human nutrition has not as yet been established. However, regardless of this fact, students of nutrition are agreed that we must provide for the inclusion of so-called vitamin G—admittedly a complex—in the daily dietary. It is also obvious that until more is known about the individual components of the complex, we must continue to depend upon present day bioassay methods to determine the "vitamin G" potencies of foods.

In this connection, many canned foods have been found by comparative studies to retain their original vitamin G potencies as measured by methods now in common use (6).

Investigators in the U. S. Public Health Service have described their values in the control of human pellagra (7).

Commercially canned foods, therefore, may be used with confidence that they will supply amounts of vitamin G consistent with the amounts present in the raw food materials.

## AMERICAN CAN COMPANY

### 230 Park Avenue, New York City

- (1) 1926. U.S. Pub. Health Report, 41, 297.  
 (2) 1934. Am. J. Med. Sci., 187, 512.  
 1935. J. Am. Med. Assoc., 104, 1377.  
 (3) 1932. J. Am. Med. Assoc., 99, 120.

- (4) 1933. J. Nutrition, 6, 559.  
 (5) 1934. J. Nutrition, 7, 97.  
 1936. Science, 83, 17.

- (6) 1932. J. Nutrition, 5, 307.  
 1932. Ind. Eng. Chem., 24, 457.  
 (7) 1932. J. Am. Med. Assoc., 99, 95.

*This is the eighteenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.*



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods of the American Medical Association.

Dr. L. V. Dawson, Ottawa, was elected president of the Franklin County Medical Society at a meeting held in Ottawa on October 28. Other officers elected were as follows: Dr. J. F. Barr, Ottawa, vice president; Dr. P. R. Young, Ottawa, treasurer; and Dr. George W. Davis, Ottawa, secretary. Dr. Barr presented a paper on "Influenza Pneumonia".

The Labette County Medical Society held a meeting in Parsons on November 2 with twenty-seven physicians in attendance. Dr. Lawrence Engel, Kansas City, Dr. C. H. Kinnamon, Kansas State Board of Health, Topeka, Dr. F. W. Shelton, Independence, and Dr. E. C. Duncan, Fredonia, were speakers on the program. Their subjects were respectively, "Methods of Treatment of Empyema"; "Methods Used to Fight Diphtheria in the State"; "Medical Cases of Relief Workers"; and "Modern Medical Problems".

The regular monthly meeting of the Marshall County Medical Society was held in Vermillion on October 15.

The Montgomery County Medical Society held a meeting at Independence on October 16 with Dr. C. H. Warfield, Wichita, as the guest speaker. He spoke on "X-Ray Therapy".

The Northwest Kansas Medical Society sponsored a free diagnostic clinic for crippled children at Goodland on October 17. The clinic was conducted by Dr. F. E. Coffey, Hays.

The Ottawa County Medical Society sponsored a series of preschool clinics in Minneapolis, Bennington, Tescott, and Delphos on October 12-15.

Dr. W. J. Kiser, Wichita, presented a paper on "Carcinoma of the Breast" at a meeting of the Pratt County Medical Society held in Pratt on October 23.

Members of the Rush-Ness County Medical Society held a meeting October 1 in Ransom. Dr. C. D. Blake, Hays, spoke on "Empyema and Its Management", and Dr. L. A. Latimer, Alexander, talked on "Conjunctivitis, Its Management and Treatment".

The Reno County Medical Society is conferring with the commissioners of that county in the interest of renewing its indigent medical care contract for next year. The society has recommended a lump sum plan with a specified compensation of \$12,500.00.

Meetings of the Sedgwick County Medical Society were held in Wichita on October 13 and October 20. At the first meeting Dr. D. W. Basham, Wichita, spoke on "Aberrant Thyroid" and Dr. E. H. Terrill, Wichita, talked on "Pernicious Anemia", Dr. C. F. Taylor, Norton, presented a paper on "Pulmonary Tuberculosis" at the October 20 meeting.

The Shawnee County Medical Society met on November 2 at the Topeka State Hospital in Topeka. Clinical cases were presented by Dr. M. L. Perry, Topeka, assisted by Dr. M. Gerundo, Topeka. Dues for next year were established and decision was made that members of smaller neighboring county medical societies

may maintain associate membership in Shawnee County Medical Society for scientific purposes upon payment of the amount of local dues.

Members of the Sumner County Medical Society held a meeting in Wellington on October 22 with Dr. C. H. Warfield, Wichita, as the guest speaker. His subject was "Bone Tumors and Allied Lesions".

The Southeast Kansas Medical Society will hold its next regular meeting at the Tioga Inn in Chanute on December 8.

The Wilson County Medical Society and the Wilson County Medical Auxiliary held a joint dinner-meeting in Neodesha on October 19. The Wilson County Medical Society has also recently completed an indigent medical care contract with its county commissioners for 1937, wherein the society will furnish medical attention on a free choice of physician basis for \$500 per month.

A meeting of the Wyandotte County Medical Society was held in Kansas City on October 20 with a program consisting of pathological conference by Dr. H. R. Wahl, Kansas City, a paper on "Intestinal Obstruction" by Dr. Lewis Angle, Kansas City, and a talk on "Abdominal Pain" by Dr. L. Growney, Kansas City. The meeting held on November 3 included a pathological conference by Dr. H. R. Wahl, a paper on "Infection of the Foot", presented by Dr. L. V. Hill, Kansas City, and one on "Coronary Disease", by Dr. Fred Angle, Kansas City.

Approximately fifty physicians met in Wellington on October 15 for a meeting of the Tri-County Medical Society. The program, which lasted throughout the day, included the following speakers and subjects: Dr. Andrew B. Rivers, Rochester, Minnesota, "The Treatment of Peptic Ulcer" and "The Chronic Dyspeptic"; Dr. Ferdinand C. Helwig, Kansas City, Missouri, "Pitfalls in Diagnosis and Therapy in Malignant Disease"; Dr. H. L. Alcock, University of Iowa, Iowa City, "The Enlarged Prostate and Its Management".

## MEMBERS

Dr. J. A. Billingsley and Dr. L. B. Spake, Kansas City, Dr. H. L. Kirkpatrick and Dr. H. W. Powers, Topeka, Dr. E. M. Seydell, Wichita, and Dr. Ned Cheney, Salina, attended the meeting of the Academy of Ophthalmology and Otolaryngology held in New York City, September 26 to October 3.

Dr. F. A. Carmichael, formerly superintendent of Osawatimie State Hospital, has accepted a position as chief clinical advisor of the six Missouri state hospitals. He will make his home in Fulton, Missouri.

Dr. F. R. Croson, Clay Center, Dr. T. J. Brown, Hoisington, and Dr. Don Kendall, Great Bend, were among those who attended the meeting of the Interstate Postgraduate Medical Assembly of North America held on October 12-16 in St. Paul, Minnesota.

Dr. Ione Clayton, Arkansas City, has opened new offices in that city.



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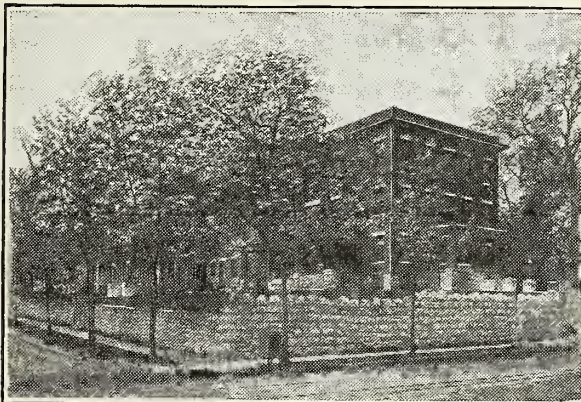
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Dr. Thomas J. Sims, and Dr. H. V. Holter, Kansas City, attended the meeting of the Central Association of Obstetricians and Gynecologists, on October 15-17 in Detroit, Michigan.

Dr. Marion Trueheart, Sterling, spoke before a meeting of the Belle Plaine Woman's Club in Belle Plaine on October 2. His subject was "Cancer".

The October issue of the magazine, *Certified Milk*, contained a reprint of the article "Certified Milk as a Source of Vitamin C", by W. H. Riddell, Ph.D. and C. H. Whitnah, Ph.D. which appeared in the July issue of *The Journal*.

A discussion by Dr. R. J. Dittrich, Fort Scott, of an article on "Osteomyelitis at Cook County Hospital" by Dr. Marcus H. Hobart, Evanston, Illinois, and Dr. Donald S. Miller, Chicago, appeared in the October 3, 1936, issue of *The Journal of the American Medical Association*.

Dr. W. R. Kenoyer, Hugoton, has returned from a two weeks special training course at the Mayo Clinic, Rochester, Minnesota.

The members of the Brown County Medical Society honored Dr. W. W. Nye, Hiawatha, with a birthday party on September 26, to celebrate his nineteenth anniversary.

Dr. Leo V. Turgeon, Wilson, and Dr. O. B. Wyant, Winfield, were presidential electors for the Democratic party in the recent election.

#### DEATH NOTICES

Dr. Herbert Elton Doty, 67 years of age, died at St. Joseph's hospital in Concordia on October 19. He was born in DeKalb, Missouri, on August 15, 1869. He received his medical training at the University of Oregon Medical School at Portland, Oregon, and Ensworth Central College in St. Joseph, Missouri, graduating from the latter in 1906. He practiced in Kansas City, Missouri, for one year and then went to Concordia where he continued his practice for thirty years. He was a member of the Cloud County Medical Society.

Dr. Walter Parker Irwin, 63 years of age, died at his home in Florence on September 12. He was born in 1873 and received his medical training at the Western Eclectic College of Medicine and Surgery, Kansas City, and the Southwest School of Medicine and Hospital, Kansas City, Missouri, graduating from Southwest in 1910. He was a member of the Marion County Medical Society.

Mr. Ross L. Laybourn, 44 years of age, State Bacteriologist, Topeka, died November 7 at the Veterans Hospital in New Orleans, following a heart attack. He had gone there to attend a meeting of the United States Public Health Association and was to present a paper on the day of his death. He was born in Marion, Kansas, November 6, 1892. He was a graduate of Washburn College, Topeka, took his master's degree at Iowa State

College, and later took postgraduate work at the Harvard Medical School. He was connected with the Iowa and Missouri state boards of health and went to Topeka in 1933 to take up the position of State Bacteriologist of Kansas. He was a World War veteran and a major in the Reserve Officers' Corps.

#### MEMORIAL

The Southeast Kansas Medical Society at a meeting of that organization held in Hepler on September 23, adopted the following resolution of tribute to its late member, Dr. Howard E. Marchbanks:

"WHEREAS: For twenty years, Dr. Marchbanks went in and out among his fellow physicians with an everwidening acquaintance and deepening friendship, industrious, studious, untiring in his effort to help his fellowmen, scholarly, refined and of lofty ideals, he pursued his studies and investigations with strenuous assiduity, still ascending, still achieving, his face toward the rising sun, the burden of life still light upon him, family and friends about him, he fell on sleep and was gathered to his fathers;

THEREFORE: Be it moved by the Southeast Kansas Medical Society and the Crawford County Medical Society in joint session, that, in the untimely death of Dr. Howard E. Marchbanks, the medical profession has suffered great loss; that the Southeast Kansas Medical Society and the Crawford County Medical Society mourn the passing of a brilliant, lucid mind, the demise of an honorable friend, a Christian gentleman, a gentle brother, and,

BE IT FURTHER RESOLVED: That copies of this biography and resolution be spread upon the minutes of the Southeast Kansas Medical Society and the minutes of the Crawford County Medical Society and that a copy be sent to the widow and family of Dr. Howard E. Marchbanks".

#### BOOK REVIEW

CLINICAL MANAGEMENT OF SYPHILIS by Alvin Russell Harnes, M.D., Published by The Mac Millan Company, New York. 71 pages.

On the usual loose paper cover of this book as it comes from the publisher the title is somewhat amplified by the words "A Handbook for Everyday Practice". This is well, for one cannot expect in seventy pages of large print and a dozen or more charts outlining courses of treatment to really cover the clinical management of syphilis as even a general practitioner sees the disease.

The whole book is in reality a chart in page form outlining syphilis including a historical review, hygiene of the syphilitic patient, preparation of medication, primary syphilis with negative serology, primary and secondary syphilis with positive serology, visceral syphilis, syphilis of the central nervous system, syphilis and pregnancy, congenital syphilis, prophylaxis, laboratory reports, bibliography and index. This is a great deal of the subject of syphilis to cover in seventy pages.

Because it is only an outline it might be a valuable book for any physician who wishes to dabble in syphilology. If every one who treats syphilis knew at least the simple fundamentals outlined in this little



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book and practiced syphilology as here advised they might save themselves and their patients a lot of grief.

Dr. Harnes makes short, definite statements concerning procedure and while specialists in syphilology could argue for years about them, they are sufficiently accepted facts for the physician to follow and to act on at once with unquestioned definiteness.

Too often lengthier works are given over to arguments, discussions and different points of view because the author is afraid to commit himself to a single statement of fact or procedure. This leaves the physician's question unanswered.

Certain cardinal points which are all too commonly forgotten by the practitioner in syphilology are emphasized. These include, certain diagnosis, necessity for routine spinal fluid examination, adequate treatment, treatment of every syphilitic woman in pregnancy, and the point that the chancre is very often not of the classical Hunterian type.

The outline form of the book makes for better use by the busy physician. After all the fact that the author did not designate in the title that the book is only an outline of clinical management of syphilis is a small matter.

Robert Riedel, M.D., State Board of Health.

### MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending October 24	Month ending September 26
Scarlet Fever .....	194	109
Tuberculosis .....	76	98
Pneumonia .....	68	41
Mumps .....	62	60
Syphilis .....	61	78
Chickenpox .....	55	9
Gonorrhea .....	43	64
Diphtheria .....	35	37
Whooping Cough .....	32	71
Poliomyelitis .....	26	13
Typhoid Fever .....	16	51
Vincent's Angina .....	8	13
Cancer .....	5	8
Erysipelas .....	5	2
Measles .....	4	11
Undulant Fever .....	4	4
Encephalitis .....	3	4
Septic Sore Throat .....	3	1
German Measles .....	3	1
Smallpox .....	3	1
Influenza .....	1	2
Meningitis .....	1	0

### ANNOUNCEMENTS

The Colorado State Medical Society has announced that the first meeting of an organization to be known as the Rocky Mountain Medical Conference will be held in Denver on July 19, 20, 21, 1937. The conference is to be a joint meeting of the Colorado State Medical Society, the New Mexico Medical Society, the Utah State Medical Association, and the Wyoming State

Medical Society. A scientific program will be presented and considerable time will be devoted to discussion of activities of organized medicine. Members from adjoining states will be invited to attend.

### NEW BOOKS RECEIVED

**BRIGHT'S DISEASE AND ARTERIAL HYPERTENSION**—By Dr. Willard J. Stone, clinical professor of medicine, University of Southern California, School of Medicine, Los Angeles, California. Published by the W. B. Saunders Company, Philadelphia, Pennsylvania at \$5.00 per copy.

## AUXILIARY

Edited by Mrs. W. G. Emery, Press Publicity Chairman

### PRESIDENT'S MESSAGE

Dear Auxiliary Members:

It will interest you to know that several counties are already carrying on considerable activity designed to increase the use of Hygeia in the state. Since the distribution of Hygeia is one of the main projects this year, I am urging the counties who have not already done so, to use every effort to make the general public Hygeia minded. See that Hygeia is placed in your city and rural schools and libraries and offices.

Dr. H. L. Snyder, President, of The Kansas Medical Society, Mr. Clarence Munns, Executive Secretary, and the President of the State Medical Auxiliary had a conference in Kansas City on October 8. Plans for the Auxiliary were discussed.

Mrs. E. J. Nodurft, 1844 Wellington Place, Wichita, has been appointed Chairman of Exhibits. She will be glad to assist any of the counties in providing and suggesting for exhibits for the state and local lay meetings and fairs.

I expect to attend the National Board meeting in Chicago on November 16 and have called a meeting of the Kansas State Board on November 20.

Members will find delightful entertainment as well as instruction in the Radio broadcasts over the blue network of the National Broadcasting Company by talent performing under the auspices of the American Medical Association. These broadcasts are presented dramatically. The programs are announced three weeks in advance by The Journal of A.M.A. weekly and by Hygeia monthly.

The dramatizations are built around the central idea of the 100,000 American doctors, members of their county, state and national medical societies, who stand ready to serve their fellow men at all times.

Mrs. L. B. Gloyne.

One of the most valuable publications of the National Auxiliary is the National News Letter, containing suggestions for, and news of the work of the various state and county auxiliaries. The last issue, published the latter part of October, contains an article by our own President, Mrs. L. B. Gloyne, which has been highly complimented. County auxiliaries will find much inspiration from these letters. The price of the News Letters is one dollar per year. County auxiliaries cannot spend a dollar



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N. Y. State Jour. Med., June 1935, Vol. 35, No. 11  
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3, 306-309

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to greater advantage. The News Letter is issued in October, January, March and May.

The Labette County Auxiliary has opened a session of active programs as the following from the Persons Sun indicates: "The first meeting of the Labette County Medical Auxiliary, following the regular summer vacation period, took place at Gret-Cliff Estate, home of Mrs. M. C. Ruble. Mrs. T. D. Blasdel, president, presided. Roll call responses were excerpts of articles taken from the American Medical Association Journal and Kansas Medical Journal and an excellent paper on 'Syphilis' was given by Mrs. N. C. Morrow during the study hour. The members arranged to order from the Reader's Digest twenty-five reproductions of the article 'Why Don't We Stamp Out Syphilis?' which recently appeared in this publication. The articles will be distributed, when they arrive, among the lay group of the city. It was also decided that an effort would be made to further the sale of the magazine Hygeia as a health education project. During the social hour refreshments were served. Mrs. R. W. Urie was chosen hostess for the next meeting for October 28. An out of town speaker will be obtained for this gathering".

The Ford County Auxiliary set a fine example for the state at their September meeting by voting to place eleven copies of Hygeia in as many schools. The business meeting was preceded by a 7:00 o'clock dinner at the Lora Locke Hotel. Ford County is also planning a benefit bridge party to raise funds for additional subscriptions to Hygeia. A round table discussion of "An Auxiliary Member Should Know That" is among their plans for a future program.

The Brown County Auxiliary met at the home of Mrs. E. K. Lawrence September 25. Mrs. Lawrence, president, announced the following committee chairman: Health-Education, Mrs. G. M. Edmonds; Public-Relations, Mrs. R. T. Nichols; Hygeia, Mrs. Paul E. Conrad; Legislature, Mrs. L. C. Edmonds; Press-Publicity, Mrs. E. J. Leigh; Social, Mrs. J. M. Hibbard; Program, Mrs. R. M. Wyatt.

The National Press and Publicity Chairman has called for monthly reports from state press-publicity chairmen. The Kansas chairman hopes that she may receive more reports from county auxiliaries, so that her reports may indicate the real activity of the Kansas Auxiliaries. It is the duty of county press and publicity chairmen to forward this news to the state chairman.

The Sedgwick County Auxiliary opened their season of social activities October 12 with an autumn tea at

the home of Mrs. E. J. Nodurft. An interesting program was arranged for the occasion. Mrs. Bruce Meeker, president, read the annual message. She then introduced Dr. Geo. E. Milbank, president of the Sedgwick County Medical Society who extended greetings to the members of the Auxiliary. Mrs. Chas. Rombold, chairman of the tea introduced Mr. Mac Cahal, executive secretary of the Sedgwick County Medical Society, who spoke on the subject, "The Public Mind". Mrs. Don Farquarson entertained delightfully with several piano selections, following which program tea was served.

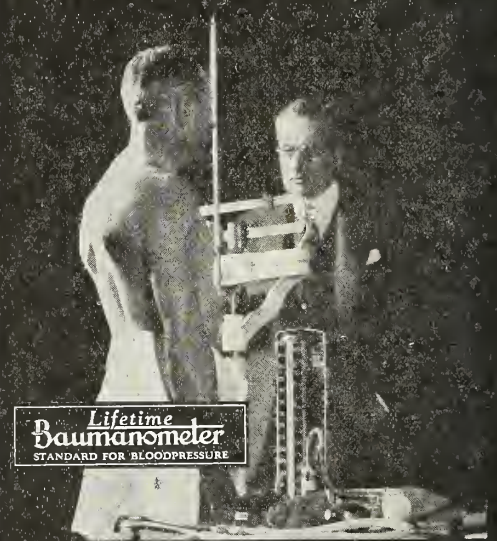
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# THE JOURNAL

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### INJECTION METHOD OF TREATMENT FOR HERNIA\*

ANDREW J. WEBER, M.D.

Milwaukee, Wisconsin

#### HISTORY

My experience in the ambulatory treatment of hernia dates back only two years to the time when I visited the clinic of Drs. Bratrud and Kinney at the University of Minnesota. These men had done considerable experimental work on dogs and rabbits with the various preparations that were on the market at that time and by this experimental work gained sufficient information to convince themselves that hernias could be successfully treated by this method. At the time of my visit to their clinic, some three hundred cases had been successfully treated. It was my pleasure to see cases that had been treated at some previous time and which were in for check up, as well as new cases, and others that were in the various stages of treatment. I wish to say that I owe a great deal to these men for the time and interest they gave me while I attended their clinic and studied the manner in which they handled their cases and the various preparations they used in the treatment. This information has been most valuable to me. My experience covers something like one hundred cases from all walks of life, and the results I have obtained are sufficiently gratifying so that, in my opinion, this treatment is well deserving of a place in the treatment of hernias.

#### HERNIA

Hernia is perhaps the most common of all defects found in otherwise healthy individuals. It is not a defect of the young, nor it is a defect of the old. It is found in

all ages and all walks of life. Perhaps the most frequent during middle life. It is far more frequent in males than females, and that, I believe, is due to the structural mechanics of the individual, rather than the occupation or vocation.

Since compensation has been established a great deal more interest has been shown in hernia, both by the employer and the employee. In the earlier years, trauma was considered a great factor and the only factor that made hernia compensable. In more recent years, the type of occupation has been given considerable thought. Where continued intra-abdominal pressure is being forced upon a potentially weak point, it is called an occupational hernia.

While my paper is not dealing directly with the cause of hernia, I wish to make a few fitting remarks on the cause, possibly to show some of the advantages of this newer method of treatment over the older method of surgery in the handling of hernia, especially in contested cases before our court commissions. I will consider the anatomy of the inguinal region, as the greater number of hernias are inguinal in type. In the early foetal life, the testicle is placed high up in the abdomen behind the peritoneum, in front of and a little below the kidney. The anterior surface and sides are covered by peritoneum. About the third month of intra-uterine life a peculiar structure is found, known as the gubernaculum testis. This structure is at first a slender band which extends from the internal ring to the body of the testicle and is there continued upward and in front of the kidney toward the diaphragm. As development advances, the peritoneum covering the testicle encloses this band-like structure, which later develops into a thick cord carrying with it the vessels and nerves. About the sixth month, the testicle starts to descend through the internal ring,

\*Presented before the meeting of the International Association of Industrial Accident Boards and Commissions, Topeka, Kansas, September 23, 1936.

down the inguinal canal, which is between the internal and external oblique muscles and out through the external ring into the scrotum. By the eighth month this descent is complete. This now gives us the potential weakness of the abdominal wall in the inguinal region. First, at the internal ring, separation of the oblique muscles, allowing for the inguinal canal, and last the external ring. Most inguinal hernias are oblique and therefore start at the internal opening and follow down, as they advance along the spermatic cord, down the canal and out the external ring, later to become a scrotal hernia.

#### TYPES OF HERNIAS

The indirect (oblique) inguinal hernia is the most common type of hernia and comprises seventy-five or eighty per cent of all inguinal hernia. The direct inguinal hernia: This type of hernia protrudes through a defect in the transversalis fascia into the lower half of the inguinal canal, traversing Hesselbach's triangle. The floor of this space is formed by the transversalis fascia. While the anterior covering is composed of the external oblique. The hernia emerges through the external ring, passing above and anterior to Poupart's ligament.

The femoral hernia emerges through the femoral canal into the upper thigh, more frequent in female than males. The dilated femoral ring is bounded above and anteriorly by Poupart's ligament and laterally by the sheath of the femoral vein. The umbilical hernia emerges through an enlarged umbilical ring which is made up of dense fibrous tissue and is a defect in the linea alba.

A ventral hernia is usually the result of a defect in the linea alba and is often called epigastric type.

A postoperative hernia is a hernia that develops through the scar of an operation and may be located at any point of the abdominal wall. This type of hernia is usually very difficult to treat with this method because of adhesions of the abdominal viscera.

#### CLINICAL HAZARDS

In reviewing the literature dealing with the subject of injection treatment of hernias, one might gain the impression that the method is without complication or hazard. Such an impression is erroneous and I am sure the unlimited use of injections in all types of cases must make an impression on anyone who feels

the method is worthwhile. Hernias that are not completely reducible and contain abdominal viscera should not be injected. Neither should an incarcerated hernia be injected. It is not necessary, however, that the sac is reduced, but the contents of the sac must be emptied out and held out at all times. Constant pressure of the truss being worn in one position and pressing over one area constantly has produced sloughing of the skin. This is most likely to occur as the result of wearing a truss too tight, as during the warm season when perspiration gets between the skin and the truss. Cases must always be watched from time to time so this condition does not develop. There are cases of sloughing reported from the injections. I have not had this experience. If a hernia is properly reduced and a properly fitting truss applied that will hold the abdominal viscera in at all times, I cannot see any possible chance for sloughing.

#### TECHNIQUE

Injection is carried out in the following manner: The patient is placed in the supine position, truss is removed, and the skin is prepared by washing with alcohol or any pre-operative preparation. The syringe being sterilized, the proper amount of solution to be used is placed in the syringe. You are now ready to make the injection. In the case of an oblique inguinal hernia, you place your first injection into the internal ring. To locate the internal ring the following "landmarks" should be observed: The anterior superior spine and the pubic spine. Just above the midpoint of a line drawn between these two landmarks represents the internal ring. Injections should be made along the entire canal and including the external ring. In the case of a direct inguinal hernia, the first injection should be made through the area through which the hernia protrudes and followed by subsequent injections around the area of the opening and in the canal and external ring. A distinct "give" sensation is felt as the needle passes through the fascia or external oblique muscle. When injecting the inguinal canal or the external ring, it is obviously easier to do this under the guidance of the finger, which is inserted through the external opening into the canal. In the case of the internal ring, one is aware that the point of the needle has entered the area by the fact that following its introduction the body of the syringe may be moved



freely in all directions. The syringe must be aspirated before its contents is emptied to make sure you have not entered a blood vessel.

Patients will complain of pain in the cord or testicle immediately following the injection if you inject into the cord and you will have some swelling following your injection. The patient may also complain of pain for a few days. Ordinarily, following the "Thuja" injection there is a slight discomfort for a few moments, but this is of little consequence and after the first two or three injections they do not complain. With "Proliferol" the area is previously anesthetized and there is no pain.

In the case of a femoral hernia the finger is placed in the femoral canal and the injection is made mesial to the finger. This, obviously, is necessitated by the proximity of the femoral vessels and nerves.

In umbilical hernias care must be used in depositing the solution well into the fascia with the hernia well reduced to prevent any injury to the viscus.

As to the number of injections necessary to completely close a hernia, depends on a number of factors, some of which we cannot be responsible for. First, proliferation of new tissue varies in individuals, even with the same technique. I do believe, however, that the more successful we are in placing our injections, the better our result will be, and the fewer injections will be necessary to effect a closure. I have not completed a case in less than six injections and have used as many as thirty before a satisfactory closure was accomplished. The latter case, however, was a very large direct scrotal hernia. Perhaps ten to twelve injections would be an average number in my personal experience.

#### SELECTION OF CASES

In selecting cases to be treated by the injection method there are several things the surgeon must have in mind. The hernia must be a reducible hernia, one that can be held reduced by a properly fitted truss. Hernia associated with undescended testicles, sliding and irreducible hernia should be ruled out so far as this treatment is concerned. Patients suffering of the following conditions: Syphilis, toxic goiter or hemophilia, should not be treated because of complications. Patients suffering of a very severe neurosis should be very carefully watched if treatment is instituted. Neurotic patients are difficult to handle and will require

very careful watching. The slightest discomfort they may have will be sufficient reason to remove the truss and destroy the repair that had been established.

#### TRUSSES

There are many types of trusses on the market. I do not think that any one make will comfortably and satisfactorily fit all types of cases, therefore it is within the discretion of the surgeon to not only fit the patient with a truss that will hold the hernia reduced, but also one that can be comfortably worn. The proper fitting of a truss and its adjustment from time to time is one of the most important prerequisites of this treatment. One man gets satisfactory results with a truss in a certain type of hernia, while another man does not find it easy to fit and finds an entirely different truss with equally good results. As long as the truss does what is expected of it and can be comfortably worn, it will be a satisfactory truss. The patient should be permitted to wear a truss for some little time before injections are instituted to enable him to become accustomed to wearing the truss and at the same time get the assurance of holding the hernia reduced. The patient should be instructed to wear the truss day and night for a month after treatment has commenced and better perhaps, longer, depending upon the size of the hernia one is dealing with. I believe that the length of time to wear the truss after injections have ceased has the same variance as the number of injections. If a case requires but a few injections, it will not be necessary to wear the truss more than two or three months, while one that requires a great many injections will have to wear a truss for a considerable period of time after treatment has been completed. It is reasonable to say that a period of at least four months following the completion of injections would be an average time to wear the truss.

#### CONCLUSIONS

As to the ambulant treatment of hernia, I believe, sufficient work has been done with this method of treatment to be convincing that it deserves a definite place in the care and treatment of hernia and that many cases that are not fit patients for surgery can safely be treated by this method. The expense of this method can be more readily borne by the poorer classes. Recurrences can be handled much more easily and with a great deal less ex-

pense to the patient. This method of treatment has placed the care and treatment of patients suffering of hernia into the hands of physicians who are competent and who understand the anatomy, pathology and diagnosis of hernia.

### A CASE OF PRIMARY RENAL NEOPLASM, RUNNING A FEBRILE COURSE AND TERMINATING IN A FATAL HEMORRHAGE FOLLOWING EROSION OF THE CORONARY VEIN OF THE STOMACH\*

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This case is of interest inasmuch as: the patient did not at any time, complain of pain; there was at no time, during the course of the disease, any evidence of hematuria by repeated microscopic examinations of the urine; the patient had an afternoon rise in temperature, occurring at first on alternate days suggestive of malaria, undulant fever or abscess, and in the later stages was characterized by daily elevations and remissions; the huge, malignant tumor found at autopsy was discovered to have originated in the kidney pelvis and, through direct extension, had invaded the renal cortex, adrenal body, the inferior vena cava and regional lymph nodes ultimately producing a massive gastric hemorrhage through erosion into the coronary vein on the lesser curvature of the stomach. The tumor defied classification, being a highly undifferentiated and anaplastic type of neoplasm resembling in that respect a carcinoma simplex.

A careful review of the literature, failed to disclose a case identical with ours from the standpoints of clinical course and termination, although reports of many lesions involving one or both kidneys had been placed on record. In all cases thus reported one or all of the triad of symptoms pointing to a renal tumor, namely, tumefaction, continous or intermittent hematuria, and lumbar or referred pain, were present.

Isreal found a pathogonomonic symptom and sometimes the only one of carcinoma of the kidney in patients free from febrile diseases. He reported a series of 146 cases of which 8.2 per cent suffered no symptoms

other than recurrent pyrexia (Centralb. f. d. Grenzgeb. d. Med. Chir., May 23, 1912).

The comparative rarity of such cases prompts us to place an additional case on record. The progress of the disease was most interesting from a viewpoint of differential diagnosis.

#### CASE REPORT

The patient consulted us on July 2 having given a history of two previous hospital admissions. His chief complaints were: easy fatigability, weakness, anorexia and chills which were followed by rises in temperature ranging from 100 degrees F. to 104 degrees F. These febrile reactions occurred with equal regularity every other day. During the temperature elevations, the patient complained of nothing but malaise and a sensation of drowsiness. At no time did he experience pain nor could a history of any definite complaint be elicited.

Examination revealed a poorly nourished, cachectic white male, fifty-eight years of age, who wore an expression of anxiety and who appeared nervous. His color was sub-icteric and the skin was wrinkled and dry, especially over bony prominences. His weight was 104 pounds and his height five feet seven inches. A thorough physical examination showed no demonstrable pathology of the heart, lungs, gastro-intestinal tract or nervous system. The blood pressure was 110 systolic and 65 diastolic, denoting a tendency to hypotension, but this finding was apparently in keeping with the patient's nutritional state and degree of emaciation. A large, smooth rounded mass was palpable in the left hypochondrium and extended medially to the epigastrium. It was not tender to pressure or fist percussion, but was fixed and immovable. The right kidney was not palpable and the liver was found to extend to, but not beyond, the costal margin.

#### LABORATORY EXAMINATION

Agglutination tests for undulant fever were negative, except on one occasion when a positive report was returned. A therapeutic test was decided upon and a series of six injections of polyvalent vaccine were administered over a period of twelve days without any appreciable change in the temperature curve. Repeated examinations, of blood smears, for malaria parasites were negative. The blood count varied from 4,200,000 r.b.c. with an Hb. of seventy-eight per cent to 2,590,000 and an Hb. of forty per cent. The leukocyte count ranged from 7,000 to 8,500. The differential count

\*Presented at a meeting of the Stafford County Medical Society in Stafford on December 2, 1936.



showed seventy-three polymorphonuclear leukocytes. Continued erythrocyte counts, presented a blood picture of a progressive secondary anemia. Often repeated urinalysis failed, at any time, to demonstrate the presence of blood in the urine. A complete gastrointestinal x-ray study was done. The stomach and duodenum offered normal outlines and apparently the peristalsis was good. There was no roentgen evidence of any ulcer or new-growth.

The emptying rate of the stomach and the motility of the gastrointestinal tract was rapid. At the four and one-half hour interval, the stomach was entirely empty and the head of the barium meal had passed the splenic flexure.

There was no evidence of any deformity of the proximal portion of the colon and the haustral outlines of the transverse colon were normal although the proximal colon seemed to indicate that there was a slight expansion from some progressive and slow development of obstruction in the distal colon.

The barium enema showed marked redundancy of the pelvic sigmoid colon with a large loop which was filled to a normal dimension over-lapping the rectal filling. This sigmoid redundancy and variation in position had produced an atypical position of the descending colon, and therefore there was not the usual

evidence of a portion of the descending colon in the left iliac fossa. No positive evidence of a circular or malignant defect in the distal colon, suggestive of malignancy, was found.

An intravenous pyelogram was made which showed a satisfactory filling of both renal pelvis. The right kidney was to all appearances, normal in every respect, whereas, the left was about two and one half times larger than normal and showed a spider-like deformity of the major calyces which were elongated and clubbed. The pelvis of the left kidney visualized clearly, but held little dye. The general appearance was that of an intra or extra-renal lesion pressing upon the pelvis, distorting its normal contour and interfering with its filling capacity. A retrograde inspection of the ureters and kidneys was suggested, but met with refusal on the part of the patient.

Treatment was directed toward building up the patient preparatory to exploration of the left kidney. Two transfusions of 500 c.c. of citrated blood were given on July 12 and 19 respectively. The patient was, to all appearances, improving rapidly under this regimen until the morning of July 23 when he suddenly had a spontaneous evacuation of 800 c.c. of tarry blood, intermingled with feces. Twenty-four hours later the patient experi-

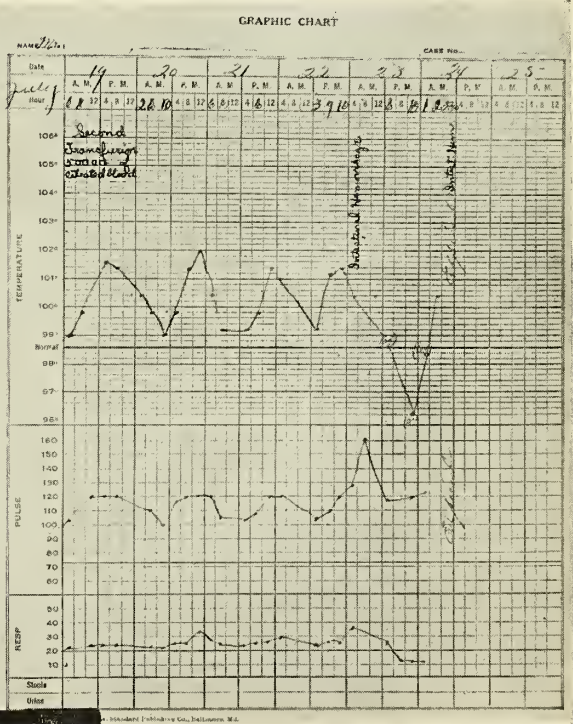
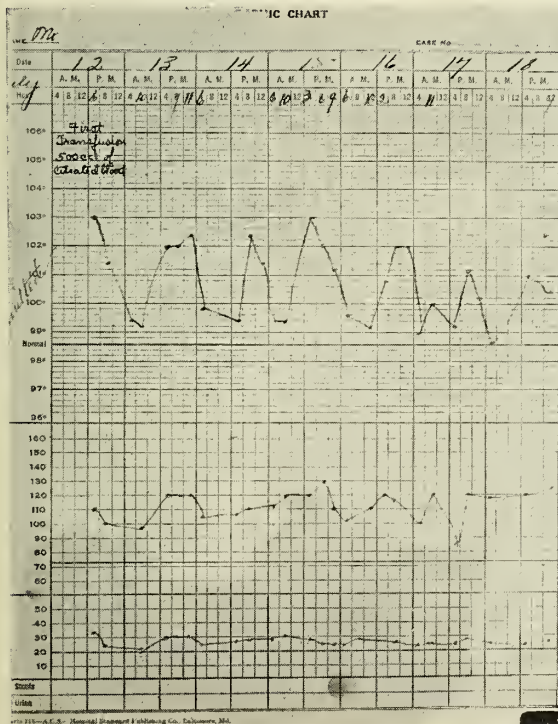


Fig. 1. Graphic chart



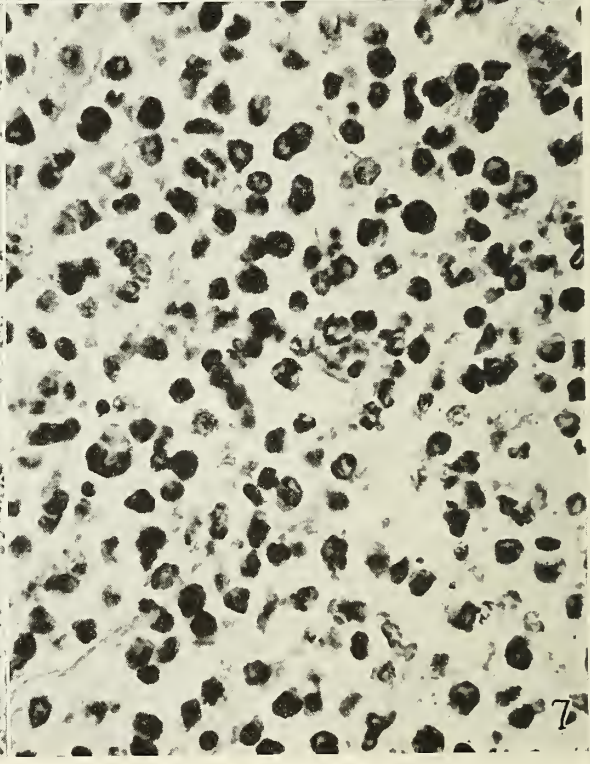
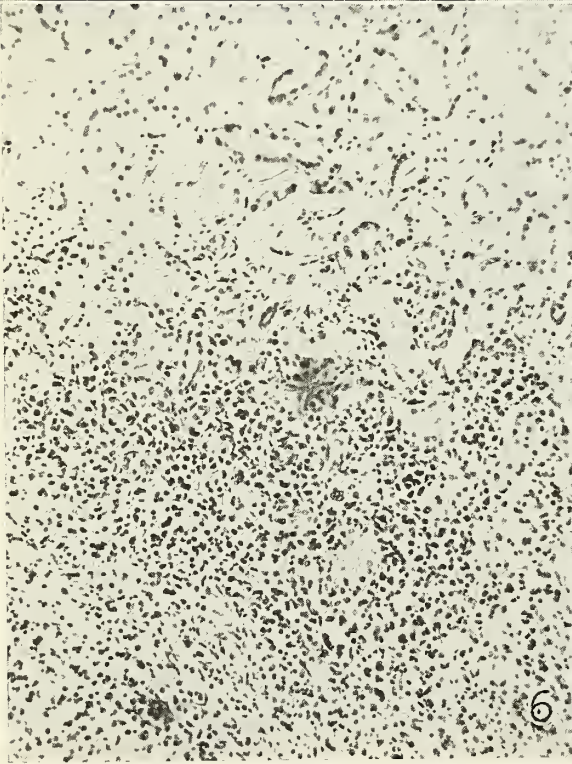
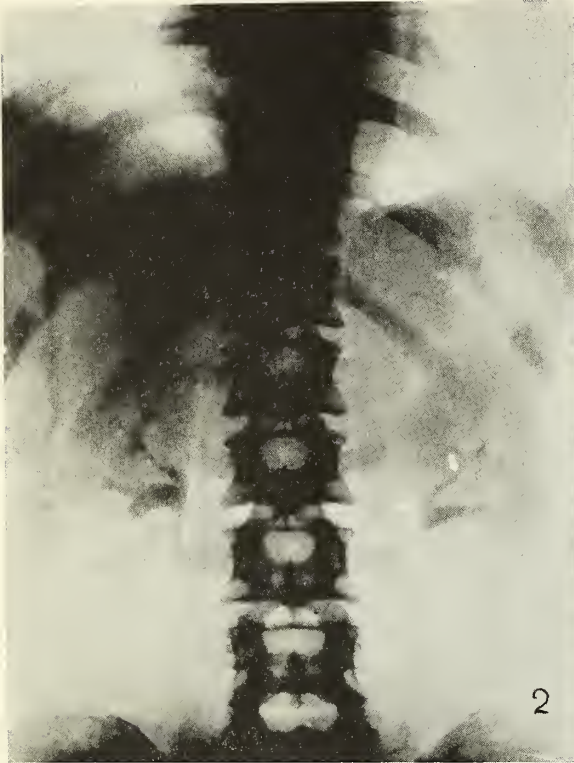


Fig. 2. Intravenous pyelogram  
 Fig. 6. Low power microphotograph of tumor—(Courtesy  
 of A. J. Brier, M.D.)

Fig. 3. Colon roentgenogram  
 Fig. 7. High power microphotograph of tumor—(Courtesy  
 of A. J. Brier, M.D.)



enced a second hemorrhage and expired. An autopsy was granted and performed.

#### POST-MORTEM FINDINGS

Necropsy revealed the body of an emaciated adult white male whose abdomen was greatly distended. Gross examinations of the lungs, heart and aorta displayed no marked pathology. The abdomen was opened and its contents exposed. The stomach was tremendously dilated and was filled with fluid, which, upon aspiration, was discovered to be dark, pre-digested blood measuring 1,270 cc. in volume.

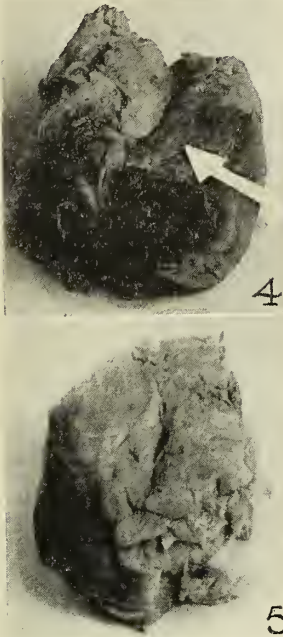


Fig.4. Anterior aspect of tumor  
Fig.5. Posterior aspect of tumor

A large retro-peritoneal mass was felt in the upper left quadrant of the abdomen, and was approached by incising the lateral leaf of peritoneum, which was reflected medially. The mass was densely adherent to the renal artery and vein, the celiac axis and the upper portion of the stomach. The left kidney was somewhat smaller than normal, the capsule stripped easily from the lower pole, but

was securely attached at the upper pole where it blended with a thick, white mass of tumor tissue which, in places, appeared opalescent and had the consistency of cartilage. The apex of the growth had undergone liquefaction necrosis, the color of that particular area was a dark green and emitted a foul, putrescent odor.

The gastric wall was incised, longitudinally, from pylorus to cardia. At a point where the stomach approached the esophageal hiatus, a thickening of the gastric musculature was noted and a larger coronary varix was exposed, into which the retro-peritoneal tumor mass had eroded. The rent in the vessel measured approximately four m.m. in diameter. A search for metastases in the liver, lungs and adjacent vertebrae revealed none. The bowel, bladder, ureters and prostate showed no evidence of

malignant involvement. The spleen, pancreas and biliary tract were normal. Grossly, the right kidney appeared normal.

The mass was freed with great difficulty and was delivered abdominally. It measured thirteen by sixteen cm. and weighed 1,442 grams.

Microscopic pathology of the tumor: "The specimen showed a growth of small, dark-staining cells without particular arrangement, which infiltrated the kidney substance and the adrenal. The cells had scanty cytoplasm and showed malignant nucleoli. They formed large masses, in which was seen a very scarce amount of collagen tissue. Sometimes, it seemed that the cells were tending to form tubuli, but such impression was not always realized as the tumor grew almost undifferentiated. Here and there were seen some strands of collagen which divided the neoplastic elements and occasional areas in which the neoplastic elements had been replaced by collagen fibers. It seemed that the tumor came from the kidney and had infiltrated the renal ledge and adrenal afterwards. The growth is highly interesting for its anaplastic character, which impedes an exact classification".

Micro-anatomical diagnosis: Carcinoma of the kidney.

#### CONCLUSIONS

Although carcinoma of the kidney is by no means a rare pathological entity, it is the exceptional case which presents a febrile course as its only clinical manifestation.

To our knowledge, this is the first case to be reported in which a renal neoplasm had invaded the coronary vessel, specifically, thereby causing a subsequent fatal gastric hemorrhage.

The growth, per se, was extremely interesting because of its anaplastic character.

Authors Note: We are indebted to Doctors Skinner, Jager, Jones and Lattimore for their assistance in compiling our laboratory data.

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## BRAIN ABSCESS

A Clinico-Pathological Resume and Report of one Case\*

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Because of our better understanding of the etiology and pathology of brain abscess coupled with the progress made in neurological diagnosis and surgery, this condition is no longer a rare and hopeless one. An abscess of the brain, like an abscess anywhere else in the body, must be recognized and treated. It is important that a brain abscess be recognized early so that the patient may come to the surgeon before the encephalitic condition is complicated by meningitis or coma has set in, since in these latter states the chances for recovery are extremely poor. The family physician is most often the first to see the patient, who may consult him for a headache or general malaise sometimes attended with fever and chills, for which the physician is unable to find a cause. The lungs are clear, the urine is normal, and there is no abdominal pathology. As the abscess progresses and neurological symptoms appear, the patient will rarely see a neurologist before he has consulted his family physician. Frequently, however, the latter will recommend a neurological consultation.

In order to obtain a clearer picture of our subject, it might be well to briefly review the causes of brain abscess, the symptomatology and the treatment before presenting a case report in which a pathologic study was possible.

### ETIOLOGY

**Traumatic Abscess:** This may sometimes accompany a skull fracture or the penetration of the brain by a foreign body, such as a missile or a dagger. An exposed extradural hematoma may become infected and produce an abscess. The abscess may form immediately after the injury, but not infrequently the symptoms from the abscess do not manifest themselves until after several weeks or months.

**Abscess by Extension:** The most frequent cause of this type of abscess is chronic otitis media or mastoiditis. An abscess may also form

by extension from any suppurative process in the face or head, such as the frontal, ethmoidal, sphenoidal or maxillary sinuses. The infection usually involves the brain either by direct extension through the coverings of the brain, or by the lymph channels. Any osteomyelitic process of the skull may similarly produce a brain abscess. An orbital abscess, erysipelas of the face, or infected teeth will occasionally produce a suppurative encephalitis.

**Metastatic Abscesses:** These most frequently have their origin in distant parts of the body. The most frequent source is a suppurative process in the lungs, such as a lung abscess, bronchiectasis and empyema. A further cause of metastatic brain abscess is an embolus arising from an infected source anywhere in the body, not rarely bacterial endocarditis.

### SYMPTOMS

Brain abscesses may be acute or chronic. An acute abscess may rapidly produce symptoms and may be fatal unless proper treatment is instituted. On the other hand, the chronic abscess may run a slow asymptomatic course and not manifest any evidence of the pathologic process for several years. However, the majority of abscesses produce a train of symptoms, which for practical purposes may be divided into two groups: (1) general and (2) focal.

**General Symptoms:** As already indicated, during the early stages of a brain abscess the symptoms may be so vague as to make it impossible to arrive at a diagnosis of suppurative encephalitis. Very frequently the patient consults his physician for a headache, sometimes accompanied by fever which may be of a septic type with chills. The patient may complain of general malaise, inability to work, loss of appetite, and loss of weight. The white blood count may be elevated with an increase in the polymorphonuclears. In other words, the patient presents the picture of an infection, but despite a careful physical examination the patient's physician may not be able to locate the source of the infection. If a lumbar puncture is done the cerebrospinal fluid pressure may or may not be elevated, the fluid may be clear or slightly turbid, but the presence of an increased number of cells—polymorphonuclears or mononuclears—speaks for an inflammatory process in the central nervous system. If meningitis can be ruled out the probabilities are very much in favor of a brain abscess.

When the abscess is encapsulated (described

\*From the Neuropathological Laboratory of The Menninger Clinic, Topeka, Kansas, and The Johnson Hospital and Diagnostic Clinic, Chanute, Kansas.



in the pathology below) the cells (which may not be increased in quantity) in the cerebrospinal fluid are usually mainly mononuclears, whereas polymorphonuclears predominate in abscesses which are not walled off. A complete history is of greatest importance in brain abscess cases, because the etiology of suppurative encephalitis is either the concomitant or the sequel of some other infectious focus present. A history of an old otitis media or some other suppurative process elsewhere in the body which may no longer be active will greatly aid in determining the diagnosis of the intracranial pathology. An x-ray of the chest and nasal accessory sinuses will often be found of great help.

As the brain abscess progresses it may rupture into either the subarachnoid space or the lateral ventricle to produce a meningitis, which ends fatally in a very short time. On the other hand, the patient may consult his physician for relief of the severe headaches which frequently recur and disturb his sleep. Sometimes these headaches are accompanied by nausea and vomiting, which occasionally is projectile in character. Or, the patient may come to his physician because of impaired vision which the physician finds is due to papilledema. All these symptoms are indicative of increased intracranial pressure. The patient may complain of mental changes. He may say that he can not think as well as formerly, that he is dull, that his memory has become poor, and that he has lost interest in himself and his surroundings. He may even show mental disturbances, simulating a full blown psychosis. The patient's pulse and respiration may be slow. When a high fever is accompanied by a slow pulse, an abscess must be seriously considered in differential diagnosis from a brain tumor.

**Focal Signs and Symptoms:** These are similar to those produced by brain tumors, since the latter as well as the abscesses are space-occupying lesions. The focal symptoms are especially important to the surgeon in order to determine the site of the abscess for treatment.

It will be impossible in this limited space to describe fully the anatomy and physiology of the brain; it is therefore necessary for us to limit our discussion to the principal symptoms produced by an abscess in the various areas of the brain.

**Frontal Lobe:** Not infrequently a frontal lobe abscess is produced by extension from a suppurative process in the nasal accessory sinuses or the orbit. Less frequently the cause is an osteomyelitis of the frontal bone itself. Abscesses of the frontal lobe are probably the most difficult to diagnose because not all the functions of a large part of the frontal lobe are known as yet, therefore, this part of the brain is called a "silent area". Thus a frontal lobe abscess will frequently produce only general symptoms, especially headaches and dullness or stupor.

Personality changes are not rare in frontal lobe lesions. For instance, the patient may lose interest in his environment and in himself. A devoted husband and father may become less attentive to his family and to his business, and he may even indulge in sexual aberrations. He may become untidy or careless about his appearance; he may laugh or cry easily without good reason; he may become facetious.

If the abscess is situated in the posterior region of the frontal lobe and involves the motor region, either directly or by edema, the patient may show Jacksonian convulsions, which begin in one area, for instance, twitching of the face or the forefingers, and be limited to this particular area, or the convulsions may spread to adjoining regions involving the entire body and appearing as a true epileptic seizure.

There may be complete or partial hemiplegia on the side of the body opposite the cerebral hemisphere in which the abscess is situated. If in a right handed person the abscess is situated in the left frontal lobe, the motor speech area may be involved and aphasia present itself as a symptom.

**Temporal Lobe:** As already stated, the most common cause of brain abscess is a chronic otitis media or mastoiditis. The majority of such abscesses are situated either in the temporal lobe or in the cerebellum. An abscess in the right temporal lobe of a right handed person may attain a large size before it will manifest symptoms that will send the patient to a physician. However, an abscess in the left temporal lobe, because of certain definite functions ascribed to that region, will manifest itself early. The patient may tell his physician that for a certain time he has not been able to name objects (anomia); although he knows what they are and what their uses are he has

forgotten their names. Or, he may not know what to do when he is asked to perform certain acts, e.g., like combing his hair. He may repeat certain words or phrases (perseverate), or he may use words or names which are awkwardly put together (jargon). In a left handed person such symptoms may be produced by an abscess in the right temporal lobe. The visual fibers which are situated in the temporal lobe are frequently affected, producing a contralateral homonymous hemianopsia, that is, impairment of temporal vision in one eye and nasal vision in the other. Visual hallucinations are not rare, consisting of seeing persons and objects which in reality are not there. If the abscess involves the tip of the frontal lobe, (uncus) the patient may complain of uncinat fits, that is, he has attacks which are usually initiated by peculiar odors or tastes, at which time he smacks and licks his lips and stares off into space. He may be in a dreamy state after such an uncinat fit and may say that everything seems unreal as though he were in a dream. It may also seem to him that he has known for a long time persons that he sees for the first time (visual dejavu phenomenon).

**Parietal Lobe:** Abscesses in this region are rare and may be due to an aural infection or may be metastatic from the lungs or elsewhere in the body. If the parietal cortex is involved sensory changes are evident, particularly impaired joint sensation in which the patient is unable to tell in which direction his toes or fingers are moved when his eyes are closed; loss of two point discrimination, in which a test with two points of a compass can not be discriminated; or astereognosis, which is the inability with the eyes closed to describe, give the shape size and name of an object. Complete sensory aphasia is not rare in lesions of the parietal lobe, that is, inability to comprehend words, understand written language (alexia), or inability to write because the patient has forgotten how. Apraxia is also one of the symptoms manifested by parietal lobe pathology. The patient has forgotten what to do with certain objects, for instance, if he is given a box of matches he does not know that he is to open it, take out a match and light it.

**Occipital Lobe:** Brain abscesses are not common in this region. If the abscess involves the calcarine fissure a contralateral homonymous hemianopsia is produced. A lesion situated

above the calcarine fissure results in a defect in the lower half of the visual fields, while pathology below the calcarine fissure produces a similar defect in the upper half of the field of vision. Unformed, visual hallucinations, that is, flashes of light and color are not rare in space-occupying lesions of the occipital lobe.

**Cerebellum:** This is a common site of brain abscess, particularly due to otitis media or mastoiditis. The signs of increased intracranial pressure—headaches, vomiting, and papilledema—often appear early because of internal hydrocephalus. Meningeal signs also appear early. Headaches, may be mainly occipital, and the patient may complain of pain in the neck. In addition the patient may present the characteristic cerebellar signs: coarse, horizontal nystagmus, which is worse on looking to the side of the lesion; dizziness and ataxia, as demonstrated by a "drunken" gait, falling to one side or backwards, broad-base gait. As a rule, ataxia is more marked on the side of the lesion. Ataxia is also revealed in the finger-to-nose or heel-to-knee tests. Tremor of the head, coarse tremor brought on by action and ceasing of action, and a diadochokinesis, as revealed by inability to perform rapidly successive antagonistic movements, such as pronation or supination, are also cerebellar signs. Dysmetria, as shown when a patient reaches for an object and misses it, is not a rare sign in cerebellar pathology. In addition, the patient may show loss of corneal reflex on the side of the lesion, or an ocular palsy may be apparent, especially an internal squint.

#### TREATMENT

Before deciding on the treatment of brain abscesses, it is important to determine whether the abscess is solitary or multiple. As a rule abscesses which are produced by extension from either ear disease or pus in the nasal accessory sinuses are single, while metastatic abscesses are multiple. If the brain contains multiple abscesses it is impossible to localize them all and drain them. However, if it is found that there is only one abscess in the brain drainage is the treatment of choice. The question of when to drain is of greatest importance. Surgeons and otologists are generally agreed that the safest time to drain a brain abscess is when the abscess has become encapsulated. Kaplan<sup>1</sup> and Grant<sup>2</sup> state that encapsulation rarely takes place before six weeks. In a large series of brain abscesses Grant did not find one instance



in which the abscess was not encapsulated after the sixth week following its development, and in those cases the largest number recovered after drainage. On the other hand, of the patients whose abscesses were drained before six weeks, not one survived. Woltman<sup>3</sup> has found that the persistence or reappearance of polymorphonuclears in the spinal fluid indicates that the abscess is not well encapsulated. On the other hand, if the spinal fluid shows a predominance of lymphocytes it is safe to believe that the capsule has formed and speaks for a better prognosis after drainage.

It is impossible within this limited space to describe the technique of drainage of brain abscesses, which can be found in any textbook of surgery.

## PATHOLOGY

This is illustrated by a case which we have recently studied, a brain which contained four abscesses.

**History:** The patient was a thirteen-year-old white boy who was a high school student. The family history was irrelevant. The patient was well until January 1, 1936, when he complained of severe headaches, which the family thought were due to "flu". The headaches were confined chiefly to the frontal region, but radiated to the top of the head when lying in a prone position. The patient also complained of intense pain in his eyes. His appetite was poor and he was badly constipated. He was seen by one of us (J.N.S.) on January 28,

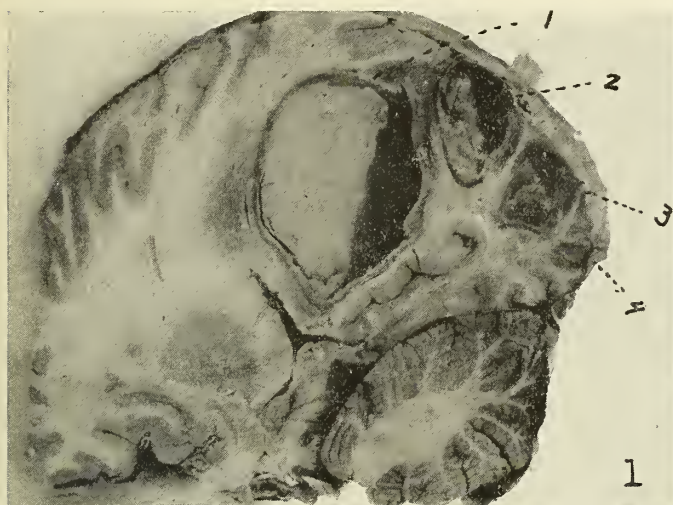


Fig. 1. Right cerebral hemisphere showing four abscesses.

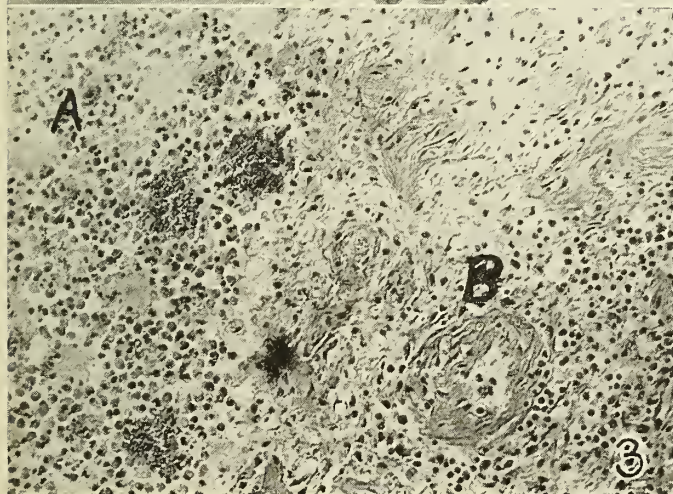


Fig. 3. The three layers are not distinct. (Van Gieson stain). A. Pus in the abscess cavity. B. Newly formed vessels in the inner layer.

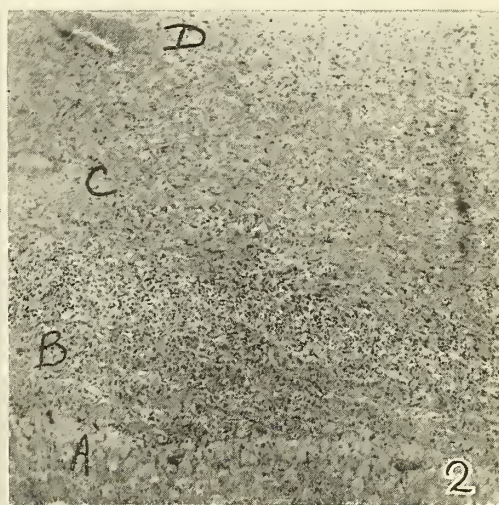


Fig. 2. Abscess wall. (Van Gieson Stain x80). A. Zone of gutter cells. B. Inner layer of abscess wall. C. Middle layer showing connective tissue fibers. D. External layer of abscess wall.

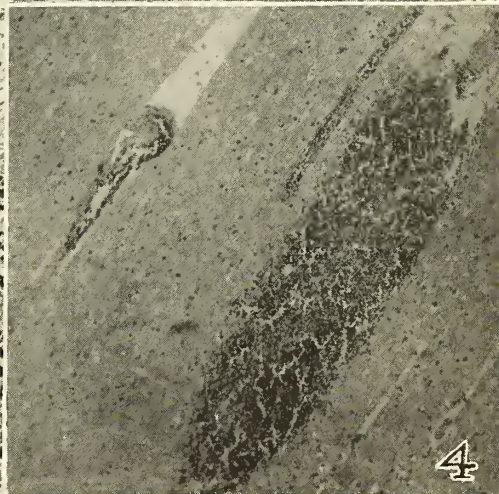


Fig. 4. Hemorrhage in white matter of right cerebral hemisphere. (Hematoxylin-eosin stain x80).



1936, at which time he presented the following on examination:

He was pale and appeared acutely ill. There was an internal strabismus of the left eye. The tonsils were normal. X-ray of the sinuses and the mastoids revealed no pathology. The chest was normal. The temperature ranged from ninety-seven to 100, the pulse from sixty to sixty-eight, and respiration from eighteen to twenty-five. Blood pressure was 110/80. A lumbar puncture was performed in which the initial pressure was fifty millimeters Hg. and was released to fifteen millimeters Hg. The culture of the cerebral spinal fluid was negative. The patient died on the same day.

#### AUTOPSY

The brain was larger than normal for the age of the patient. The dura mater was very tense. The convolutions and sulci were markedly flattened and the vessels over the convexity of the brain were congested. All these findings were indicative of marked brain edema and accounted for the high cerebrospinal fluid pressure.

There were four abscesses (Figure 1) in the right cerebral hemisphere, occupying the posterior part of the frontal lobe, the occipital and parietal lobes. The largest abscess, about the size of a hen's egg, was situated in the white matter of the parieto-frontal region, and consisted of greenish-gray pus, two-thirds of which was opaque and cheese-like, while one-third was translucent and gelatine-like. The abscess wall was thick and firm. The surrounding brain tissue was friable and had a brownish color in spots, in which were contained numerous pin-point reddish areas, which were petechial hemorrhages. The remaining three abscesses varied in size from a walnut to a pea. All contained greenish-gray pus and were lined by a thick, firm capsule.

The ventricular system of the right cerebral hemisphere was considerably distorted, due to compression. The various horns of the lateral ventricle could not be identified and the third ventricle was compressed. The basal ganglia were shoved anteriorly and ventrally. The lateral ventricle of the left hemisphere was normal except for a widening of the posterior horn.

Microscopic description: The histologic structure of the wall of an abscess differs considerably according to the age of the abscess and the reaction of the surrounding tissue. For

instance, the capsule of abscess No. 2 (Fig. 1) differed from that of abscess No. 1. In the former (Fig. 2) the microscopic appearance of the abscess wall corresponded fairly well to that described by Hassin<sup>3</sup> in that it showed three distinct layers; the inner, middle and external.

Abscess No. 2: The abscess cavity consisted of purulent material containing numerous polymorphonuclear cells and lymphocytes. The periphery of the abscess cavity showed (Fig. 2) a wide zone of gitter cells (scavenger cells) which were laden with fat. It is the function of these cells to remove débris—the products of degeneration. The débris is transported by the gitter cells to the perivascular spaces and the subarachnoid space, thence to the blood stream. Below this zone of gitter cells was the inner layer of the abscess wall, which consisted of a thick layer of granulation tissue containing few blood vessels but several capillary buds. The connective tissue fibers formed no particular pattern but ran in all directions crossing and inter-crossing each other and leaving very few small inter-spaces. This layer was fairly cellular consisting of fibroblasts, endothelial cells, plasma cells, lymphocytes, phagocytes, and an occasional polymorphonuclear cell. The middle layer appeared prominent in the van Gieson stain because of the dense red staining collagen which made up this layer of the capsule. The blood vessels were numerous, some of which were large. The cells were not so numerous as in the inner layer and were mostly fibroblasts. There were also some phagocytes, plasma cells, and lymphocytes. The structure of the external layer resembled that of the inner layer, but contained more vessels than the latter. The connective tissue fibers had a parallel arrangement. The cell content did not greatly differ from that of the inner layer. In the boundary between the external layer of the abscess wall and the surrounding brain tissue there was an occasional vessel showing perivascular round cell infiltration. The glia cells were not increased in quantity and showed very minute pathological changes.

Abscess No. 1: As already mentioned, the structure of the wall of this abscess differed from that of the already described capsule. In the wall of the largest abscess (Fig. 3) the three layers were not distinct. The inner layer was conspicuous for its large number of newly formed vessels lying in a network of thick con-



nective tissue fibers running in all directions and forming meshes of various sizes. Within the meshes were contained numerous cells of the types already mentioned, that is, plasma cells, lymphocytes, phagocytes, fibroblasts, a few endothelial cells and an occasional polymorphonuclear cell. The so-called middle layer was not distinct. Collagenous fibers were not so dense as those in Figure 2. The bundles of fibres did not run parallel to each other and the meshes were wide. The cells were more numerous than in the middle layer of the previously described abscess wall, and were of the same type as those in the inner layer. The external layer was similar to that described above, consisting of parallel running fibers and few vessels. The meninges in the neighborhood of the abscesses showed small collections of lymphocytes in addition to debris (scavenger cells laden with fat and pigment) in the sub-arachnoid space. In the white matter of the right hemisphere in regions not distant from the abscesses there were small areas of hemorrhage, (Fig. 4), also numerous areas of perivascular round cell infiltrations (encephalitis). Otherwise, the entire brain showed the changes common in edema (increased intracranial pressure) such as dilated perivascular and pericellular spaces, pathological changes in the ganglion cells of the cortex with disappearance of the tigroid substance, a shrunken and dark staining nucleus. Many of the perivascular spaces in the white matter showed scavenger cells laden with fat and pigment.

Sections of the abscess stained by the Gram method for bacteria showed numerous streptococci.

#### COMMENT

Since permission could not be obtained for a complete autopsy in the above described case, we were not able to determine the etiology of the brain abscesses. It was most probable that the abscesses were metastatic, because of their multiplicity, but the source or origin was unknown. The patient died about one month after the onset of his illness, which corresponded fairly well with the age of the abscesses.

#### SUMMARY

1. The etiology, symptomatology and treatment of brain abscesses are briefly reviewed.
2. The pathology of brain abscess is illustrated by a case of multiple abscesses in a 13-year-old boy.
3. The histologic structure of the wall of a

brain abscess varies according to the age of the abscess.

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### SURGICAL TREATMENT OF INJURIES TO PERIPHERAL NERVES\*

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The surgical treatment of injuries of the peripheral nerves is governed by the physiopathologic phenomena of degeneration and regeneration of these nerves. The character of the injury, whether it is contusion of a nerve, compression of a nerve by a blood clot or callus, a clean-cut section or extensive laceration resulting in loss of nerve tissue or in avulsion of a nerve, more or less determines the type of surgical operation that is indicated. The degree of paralysis and the interval between the time of the injury and the repair are important factors in selecting the operative procedures and in determining the indications for operation. The ideal operative measures are neurolysis of nerves which are partially paralyzed as a result of constriction and end-to-end suture following removal of the neuromas. Suturing should be performed in the first six months following the injury; interrupted silk sutures should be placed in the epineurium, without tension. Prevention of undue traction on the suture line, and gentle massage of the paralyzed muscles during the period of recovery, are essential to successful regeneration.

#### DEGENERATION AND REGENERATION

Immediately following division of a nerve the process of degeneration and regeneration begins. This histologic process was described by Waller in 1852. The axis cylinder and myelin in the segment of the peripheral nerve which has been severed from the ganglion completely degenerate whereas the same elements in the proximal segment degenerate up-

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ward to the first node of Ranvier. At the same time the nuclei associated with the sheath of Schwann start a process of hyperplasia which begins with enlargement of the nucleus and a granular deposit in the cytoplasm. The wallerian degeneration begins about the third day and is complete on the twelfth day, except for the resistant axons and the myelin granules that may be seen for several weeks. This process consists of a granular disintegration of the axon in the distal end and of the axon in the proximal end up to the first node of Ranvier. The myelin begins to disintegrate and forms droplets of fat within the neurolemma, thus giving a positive black stain by Marchi's method, whereas the normal myelin gives a yellow stain.

The regenerative process is continuous with the degenerative process; first, the nuclei of Schwann's sheath multiply very rapidly and fill the empty lumen of the neurolemmal sheath in the distal end as well as the sheaths from the site of severance to the first node of Ranvier; then, if the intervening gap between the severed ends is not too long, or if it is protected by some form of tube, these cells will send out protoplasmic bands of gelatinous appearance, which fill the intervening gap. Simultaneously the axon sends out numerous neurofibrillae, numbering from five to fifteen, which grow downward through the mass of protoplasmic bands, and, if the gap has been bridged by these bands, they follow the bridge and enter the distal nerve segment. It is not uncommon to find two or three axons following a single protoplasmic band. Many of the neuraxons, however, will fail to enter the distal nerve segment and will produce an oval enlargement at the site of anastomosis, known as a neuroma.

The protoplasmic bands and cells arising from the neurolemmal sheath not only assist in keeping the lumen of the distal segment open and bridge the intervening gap between the nerve ends, but also apparently they arrange themselves and act as a reticulum, forming the meshwork in which the myelin is deposited, enabling the nerve to complete its process of regeneration. The following outline is quoted from S. Walter Ranson:

*"Early Changes in the Distal Stump.—*

1. Degeneration of the medullated fibres and formation of nucleated protoplasmic bands. 2. Degeneration of the non-

medullated fibres and the formation of nucleated protoplasmic bands. 3. Abortive autogenous regeneration in the distal stump.

*"Early Changes in the Proximal Stump.—*1. Changes in the non-medullated fibres; early abortive regeneration; cellulipetal degeneration; formation of new axons. 2. Changes in the medullated fibres; formation of a zone of reaction; fibrillar dissociation; early branching of the axons in the immediate neighborhood of the lesion; formation of lateral branches at some distance above the lesion; formation of fibre bundles and skeins.

*"Mechanism of the Regeneration of Nerve Fibres.—*1. Proliferation of axons in the central stump. 2. Penetration of the new axons through the scar. 3. Utilization of the protoplasmic bands as pathways for the new axons in the distal stump".

#### NERVE INJURIES

Since this discussion deals with the treatment of injuries to peripheral nerves, I shall not review the clinical syndromes relative to individual nerves but shall review the various types of injuries that may affect peripheral nerves.

Contusion of a nerve.—Temporary or permanent paralysis may result from contusion of a nerve. The blow to the extremity or to a nerve need not be sufficient to produce fracture of a bone. However, these injuries are usually associated with a fracture. The two most common lesions are those of the ulnar and of the perineal nerves; the injuries take place where the nerves are exposed at the elbow and below the head of the fibula. There is a condition that is referred to as "tardy ulnar palsy" which develops years after fracture of the internal condyle of the humerus. The malposition of the fragment and the excessive growth of the callus flattens the ulnar groove and subjects the ulnar nerve to frequent trauma and to undue tension on flexion of the forearm. It is seen most commonly among chauffeurs, farmers and ball players. The symptoms are initiated by a tingling sensation along the distribution of the ulnar nerve and progress slowly. Surgical treatment consists in transferring the ulnar nerve from its old condylar groove to a new position anterior to the condyle, so that the nerve lies in a new muscu-



lar channel. If the paralysis has developed to such a degree that loss of function is fifty per cent or more, it is necessary to resect the neuroma, which is a fusiform thickening in the nerve, before suturing the nerve end-to-end and transferring it to the new muscular channel.

Unless the clinical history suggests that the contusion has crushed the nerve, it is advisable to postpone exploration for eight to twelve weeks, in the hope that recovery will be spontaneous. During this period of observation gentle massage is to be applied and the extremity should be supported to prevent undue stretching of the paralyzed muscle. However, if no signs of improvement take place in the partially paralyzed nerve within that period and no signs of improvement take place within three or four days after a complete paralysis, it is advisable to explore the nerve, perform neurolysis or transfer the nerve to a new muscular bed. If the contusion has been extensive enough to have crushed the nerve, immediate resection of the injured portion, with end-to-end suture, is indicated.

Compression of a nerve.—Paralysis from compression of a nerve may develop at the time of injury or weeks following the injury. In the first instance, the paralysis results from extravasation of blood into muscle and soft tissue, which in turn displaces the nerve and compresses it against a fascial band. The two nerves most commonly injured thus are the median and the musculospiral nerves and their point of injury is in the antecubital fossa, where fascial bands fail to stretch with the enlargement of the muscle. Exploration, with liberation of the nerve, is indicated within seventy-two hours after the injury. Late compression results from callus which envelops the nerve at the point of fracture. The symptoms in this instance make their appearance as the callus becomes organized. Although the symptoms of sensory and motor disturbance progress slowly, the nerve should be promptly explored and liberated. Rarely is it necessary to do more than neurolysis and it is obvious that the nerve should be explored as soon as the lesion is recognized, for the earlier it is liberated the more complete will be recovery. Incomplete bony union is not a contraindication to exploration of nerves.

Lacerations of nerves.—These injuries are determined by the nature of the accident and vary from clean-cut section to extensive loss

of nerve tissue, such as results from gunshot wounds and accidents with shredders. The treatment is divided into two stages, the immediate and the late repair. If the wound is inflicted by a clean, sharp instrument, it may be possible to effect end-to-end repair with a satisfactory result. More often than not, however, the wound is infected, which results in failure of the suture line to hold and this requires exploration again at a future date. It is desirable to use interrupted sutures of silk in the epineurium to maintain apposition of the nerve ends while regeneration is taking place but unfortunately the use of silk sutures in an infected wound is contraindicated since the silk sutures are likely to remain a source of drainage and to prevent reoperation within a suitable interval from the time of the injury. Therefore, in most instances repair of the nerve at the time of injury is best made by two or three through-and-through sutures of chromic catgut, and special care must be taken to avoid undue traction of the sutured ends for a period of six to eight weeks. Immediate suture of the nerve at the time of injury, even though the wound is infected, may prevent extensive retraction of the severed ends. If signs of regeneration do not appear within six months after the emergency repair of the nerve, it should be re-explored. Regeneration is recognized by improvement of vasomotor phenomena and by Tinel's sign, a tingling sensation on concussion of the nerve below the line of suture. If the wound has been infected, secondary exploration of the nerve usually is necessary. The exploration should be postponed for eight weeks following healing of the wound, since most attempts at repair of nerves in the presence of infection result in failure.

The late repair of injuries to nerves should be instituted as soon as possible after the infected, lacerated wound has healed, unless there is evidence at the time of the primary repair that there has been extensive loss of nerve tissue which will make it utterly impossible to approximate the ends of the nerves or to bring them within one or two cm. of each other.

During the development of surgery of peripheral nerves, innumerable operative procedures have been devised, such as, the flap method, the fusion method, overlaying of small nerves and tying them with a silk ligature, fascial tubulization, vein tubulization, homo-

geneous and heterogeneous transplantation, and the end-to-end anastomosis in immediate approximation. Investigations and experiences in war have shown that following removal of neuromas, end-to-end suture with interrupted blood-vessel silk, in a dry, aseptic field, is the ideal method. In order to accomplish end-to-end anastomosis it may become necessary to flex or to adduct the extremity and in some instances to transfer the nerve to a new position in order to close the gap between the ends of the severed nerve. If the distance is as short as one to two cm., homogeneous, cable grafts or tubulization may offer sufficient assistance for a number of the proximal axons to reach the distal end. All foreign material placed between the ends of the nerve as a bridge merely serves as a framework for axons to follow but never does the nerve graft become a part of the new axon which traverses the gap to reach the distal segment. If the gap is greater than one or two cm., scar tissue invariably strangles the regenerative axons and prevents regeneration. The retracted ends of a nerve, following severance, can be stretched moderately to close a gap; then, by overlapping and suturing the bulbous ends of the nerve and allowing this temporary suture to remain in place until the flexed extremity is allowed to extend to its normal range of motion, the secondary repair can be effected. When it is impossible to accomplish good repair of a nerve, it is much wiser to consider transfer of a tendon, and thus to secure a moderately useful extremity, than to wait indefinitely, two or three years for unlikely regeneration of a nerve.

Intracranial nerves which have been injured by a fracture of the skull or gunshot wounds, do not lend themselves to surgical repair. After peripheral injuries of the fifth, seventh, tenth, eleventh and twelfth cranial nerves, anastomosis, similar to that employed in repair of spinal nerves, can be performed. If the seventh nerve, the facial nerve, is injured within the skull or at its bony exit, it is repaired by transferring the proximal end of a less important nerve, the spinofacial or the hypoglossal nerve, to the distal end of the facial nerve. Since facial paralysis is so disfiguring it has proved justifiable to substitute paralysis of the spinal accessory nerve or of the hypoglossal nerve, in the hope of securing return of function of the facial muscles. Although a good functional result is obtained, and the disfigurement disappears when the face is in repose, full control

under emotion is lacking. During the period of regeneration it is necessary for the patient to exercise considerable will power in re-educating the muscular control, for at first the facial movements will occur whenever the shoulder is lifted or the tongue is moved, depending on which nerve was used in the repair. The first signs of facial movement, indicating regeneration occur about the fifth month following repair of the nerve. The degree of regeneration improves until the end of the second year. If the patient is faithful about his muscular exercises he will be able to dissociate movements of the shoulder from the facial movement and he will be able to move the facial muscles without moving the shoulder by the time two years have elapsed following operation.

Avulsion of nerves.—The components of the brachial plexus are most vulnerable to avulsion and the type of avulsion that occurs earliest in life results in obstetrical palsy. The type that occurs most commonly is that which results from a blow on the shoulder or from a fall on the head and shoulder. These two types of injury are characterized by paralysis resulting from incomplete or complete avulsion of the fifth, sixth and seventh cervical roots.

In attempting to analyze the reasons why some patients recovered spontaneously while others did not, and why most operations for avulsions of the brachial plexus failed to cause improvement of the paralysis, I carried out an investigation, attempting to reproduce the injuries in fresh cadavers. Varying degrees of traction were placed on the brachial plexus. I exerted downward pulls on the shoulder, upward pulls on the arm and shoulder with anterior and posterior rotations of the plexus, simulating injuries caused by machine belts; also, I produced oblique pulls on the shoulder, simulating injuries caused when an individual attempts to extricate his hand when it is caught in a machine. The following observations were elicited: All injuries which occurred under moderate traction resulted, first, in tearing of the fascial attachment about the dorsal ganglion; second, in the rupturing of blood vessels in the nerve and sheath. As the traction was increased, either downward or upward, the dorsal ganglions were dislodged and the motor root was partially avulsed from the cord. As the traction was increased still more in a downward direction, the fifth cervical nerve root was avulsed, and partial avulsion



of the sixth and seventh roots occurred. When the pull was directed upward a similar result occurred, but in reverse order; evulsion of the first thoracic root was greater than that of the eighth and seventh cervical roots. The rotating forces resulted first in avulsion of the seventh cervical root and then in involvement of the upper and lower roots, thus explaining why injuries caused by machine belts were usually more extensive than those caused by falling. The oblique pulls resulted in fragmentation of nerve fibers, and rupture of nerve fibers occurred, similar to the tearing of a rope when undue tension is exerted. These facts explain why surgical attempts at repair are more or less futile; it is impossible to reinsert nerve roots into the spinal cord.

It is obvious that spontaneous partial recovery will follow many incomplete avulsions. Massage, passive motion and support of the muscles and of the extremity are essential to recovery. Orthopedic plastic procedures occasionally can be employed to improve the function of a partially paralyzed extremity. However, if improvement does not appear within eighteen months following complete avulsion there is very little likelihood of subsequent improvement; therefore, it is often advisable to consider high amputation to relieve the patient of a useless, painful arm. Similar injuries to the lumbosacral plexus may occur but are rare and usually the avulsion is incomplete. The tearing of other peripheral nerves in accidents with buzz saws likewise lend themselves poorly to repair of nerves. Occasionally one is able to resect good portions of the nerve and to effect end-to-end anastomosis, with partial improvement as a result.

#### PROGNOSIS

The results of surgical operations on nerves depend on the character of the injury, on the duration and degree of the paralysis and on the performance of a satisfactory operation. Partial paralysis attributable to contusion or compression may disappear completely in six weeks or may require two years, depending on whether or not degeneration has taken place in any of the axons. Once degeneration has occurred, the entire process of regeneration must follow before sensory or motor improvement appears. If only a portion of the nerve has been injured, the normal fibers will function while the repaired, injured fibers undergo regeneration. The longer the nerve, the slower

will be the recovery since new axons grow on an average of one to two mm. each day. In addition to the time required for the axons to grow through the distal segment, six to eight weeks are required for the process of degeneration and regeneration, and for new growth of axons through the suture scar to be completed; a similar length of time is required for the formation of sensory or motor end bulbs. Thus, the surgeon can calculate when the first signs of regeneration should appear by measuring the length of the distal segment and adding sufficient time for the axons to pass through scar and for sensory or motor end bulbs to develop. The line of anastomosis is placed in a new muscle plane whenever possible, to eliminate the constricting effect of the scar of the traumatic wound, for such scars decrease, and occasionally eliminate, the possibility of regeneration.

The interval between injury and repair is an important factor in determining the degree of recovery. The longer the interval, the poorer will be the result, since the protoplasmic bands of Schwann's sheath cells slowly become organized and do not readily admit the new axons. The longer a muscle fiber remains paralyzed, the greater will be the atrophy and fibrosis and the less likely will be its recovery when it is innervated again. The ideal time for repair of a nerve is immediately following injury; if repair cannot be done then, it should be done as soon as possible. The degree of recovery is reduced by thirty per cent if repair is performed in the second year following injury and is decreased by an additional fifty per cent in the third year. Therefore, there is not much to be expected from repair of a nerve after the third year.

It is obvious that the degree of improvement following any operation on a nerve depends on the accuracy of the procedure and on the thoroughness with which neurolysis, or end-to-end suture, is made. All neuromas and scar tissue must be resected before sutures are inserted. The various fasciculi must be approximated or crossed regeneration will result. Peripheral silk sutures in the epineurium produce less scar tissue at the suture line than do through-and-through sutures of either silk or catgut. The circulation to the nerve ends must be preserved, although bleeding between the approximated ends is not permitted, since a small hema-

## PRESIDENT'S PAGE

To All Members of The Kansas Medical Society:

It is clear that the next few years will bring about one of the most extensive programs on the subject of venereal disease that has ever been attempted. Dr. Thomas Parran, Surgeon-General of the United States Public Health Service, has chosen this as the foremost present activity of this organization, and has requested and received the support of organized medicine in this regard. With a merger of public health and medical forces, there is every possibility for gonorrhea and syphilis to be placed in the category of controlled diseases.

Extensive activity in this direction has already been commenced in Kansas. At a recent conference between Dr. Robert H. Riedel, head of the Division of Venereal Disease, Kansas State Board of Health, arrangements were completed for appointment of a Society Committee on Venereal Disease, and for coordination of Kansas venereal disease programs under its direction.

This committee has been appointed, and has already held one meeting. Its present program consists of: Preparation of a scientific brochure on treatment gonorrhea and syphilis which it is hoped will provide a practical desk reference for physicians; arrangements for a scientific symposium on this subject to be held within the near future in each of the councilor districts; presentation of a venereal disease section in *The Journal*; sponsorship of a scientific information bureau; wide lay educational activities through the medium of the county medical societies; and economic plans for the treatment of indigent syphilitics.

Kansas is fortunate in having a State Board of Health which is practical and efficient in its viewpoint on all matters within its jurisdiction. Dr. Riedel is no exception in this regard, and the profession can expect a great deal of worthwhile assistance from him. We urge, therefore, that all county medical organizations discuss fully all bulletins issued on this subject; that they cooperate extensively with the Kansas State Board of Health and this committee in all of their programs, and that they adopt gonorrhea and syphilis as one of their major responsibilities and a basis for future activity.

We extend you our sincere well-wishes for the New Year, and our hope that your Christmas will be a happy one.

H. L. Snyder, President.



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## EDITORIAL

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### DR. PARRAN ON SOCIAL SECURITY

In an address delivered before the recently held Conference of State Secretaries in Chicago Dr. Thomas Parran, Surgeon-General of the United States Public Health Service, stated that it is the purpose of the Public Health Service to apply biologic knowledge so that man may benefit from it. Under the new Social Security Act there is to be distributed among states \$8,000,000 for financing health projects. Local health officers used to deal only with environmental conditions. Now the Service is interested in the facilities for diagnosis and treatment of disease, to include control of the treatment of individual cases. In this undertaking Dr. Parran wishes full cooperation and participation of the medical profession. He asks doctors to look at the mass problem in their own communities, the cancer problem, tuberculosis and syphilis. He suggests that plans be worked out in each state for cooperation with the United States Public Health Service. There is a special committee of the State Medical Association in Pennsylvania for the purpose of this cooperation.

Dr. Parran states very emphatically that he has no insurance plan in mind. "No scheme of Socialized Medicine", but the general medical care of the indigent, while outside the scope of the Public Health Service, is going to be demanded by the public. No master plan has been devised for this service but should be worked out by each state according to its needs. Three points were brought out which should be of particular interest to medical practitioners. First, a more complete application of our knowledge of medical science; second, improved facilities for diagnosis and treatment of disease; and third, the use of tax funds for distributing medical service to indigent groups.

In other words, Dr. Parran proposes that the "social lag" in the distribution of medical

service be taken up. The method is yet to be formulated and it will be left to the separate states to be worked out. In this undertaking, with the government furnishing the money for the establishment and operation of services it may well be expected that the leadership will come from the United States Public Health Service.

If we are to have a nation wide, coordinated effort toward the solution of the cancer problem, tuberculosis, syphilis and other diseases, if the matter of health is to be raised to its proper place in the lives of the people, the medical profession will of course join heartily with the Public Health Service to bring it about.

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### FOR COUNTY SOCIETIES

Dr. Olin West, speaking before the recently held Conference of State Secretaries and Editors in Chicago, called attention to the necessity that county medical societies deal directly with members who have been convicted of a felony. It was recommended that a ruling be incorporated in the by-laws of the county societies providing for the automatic and permanent dismissal of a member convicted of a felony in a civil court. Dr. West's recommendation was put in the form of a resolution by the Conference and unanimously adopted.

This action is directed particularly against violators of the Harrison Narcotic Law, whose status in organized medicine has been too often a matter of dispute. It is hoped that county societies will take prompt action in carrying out this proposal made by Dr. West.

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### WHAT THEY DO\*

Each year from Thanksgiving to Christmas, Americans from Maine to Hawaii and from Alaska to Florida unite with the people of forty-one other countries in one of the most powerful mass movements against a common

\*Glenn V. Armstrong.

foe that the world has ever known—Tuberculosis.

Voluntarily they participate in the annual sale of Christmas Seals, those gay holiday stickers on which appears that international symbol of health and hope—the double-barred cross. This year the United States Seals also bear the picture of jovial good health personified, Santa Claus.

**FIGHT  
TUBERCULOSIS**



**Buy and Use  
CHRISTMAS  
SEALS**

Christmas Seals, since 1907 when the first one was sold in Wilmington, Delaware, have raised funds—penny by penny and dollar by dollar—that have helped to build a line of defense that protects everyone.

That the defenses are effective is shown clearly by the fact that the tuberculosis death rate has been forced down from 179 deaths per 100,000 population in 1907 to 54 in 1935.

Against the unnecessary toll taken by this communicable, preventable and curable disease, the comparatively small sums of money raised in local communities by voluntary groups have been used in those communities with a definite plan, under the guidance of the National Tuberculosis Association.

These funds have prompted the establishment of agencies of various kinds that have in turn been chiefly instrumental in gradually bringing tuberculosis under control. These lines of defense may be catalogued briefly thus:

1. 1,200 institutions,—sanatoria for tuberculosis and hospitals having tuberculosis departments,—providing 95,000 beds for the treatment and prevention of tuberculosis, chiefly for adults.

2. 10,000 public health nurses engaged

3. 1,000 clinics for diagnosing and finding tuberculosis.

in tuberculosis work.

4. More than 1,200 preventoria, summer camps, open-air schools and similar institutions for the care and treatment of

children with various forms of tuberculosis or for those who have been in contact with tuberculosis, or who are subnormal physically.

5. 1,981 tuberculosis associations including a state-wide organization in every state and local agencies in all of the larger population centers.

But the building of our national defense against tuberculosis is not completed. The disease still takes the lives of about 70,000 persons annually in the United States. Tuberculosis, although ranking seventh as a cause of death when all ages are considered, is the leading killer of people between fifteen and forty-five. It remains the breaker of homes, the maker of orphans and a constant threat to the life and happiness of everyone.

### AN INVALUABLE PRECEDENT

Medicine is not alone in welcoming the outcome of the State's action against the Life Extension Institute in New York City. By upholding the statutory ban on the practice of medicine by corporations, however, well-intended, the decision strengthens similar prohibitions in other professions. Interdiction of physical examinations by the Institute, even though unattended by treatment, shows that it is not necessary to perform all the acts pertaining to a profession in order to come within the meaning of the law; performance of a single professional act constitutes professional practice.

The precedent set in this particular case will go far to maintain the integration of all professions and individual responsibility therein. In law, as in medicine, private practice has suffered greatly from corporate encroachment. Title companies, government agencies, have taken over many lucrative branches of the law, with the result that qualified members of the bar are denied the economic opportunity that should be theirs. This destruction of the normal incentives stifles initiative, inhibits the constant striving for self improvement which



is essential to high professional standards, and drives many with the requisite mental and moral qualities into more lucrative pursuits. What is true of the law in this respect is equally applicable to medicine, dentistry, and other professions.

It is not to be assumed that the decision in the Life Extension Institute case will operate solely to the profession's advantage. There is nothing in the service rendered by such corporations that cannot be done at least equally well by the private practitioner, either at his office or, in complicated cases, in the hospital. As a matter of fact, it is universally conceded that the health examination has the best chance of eliciting significant data when it is performed by the family doctor, who is familiar with the patient's heredity, past medical history, and social and economic environment.

Discussion of this case is incomplete without a word of praise for the fair attitude maintained throughout by Referee John Caldwell Myers, Deputy Attorney General Ullman, and the attorneys for the Life Extension Institute. In an action to uphold basic provisions of the medical practice laws, they have displayed a high degree of legal conscience and public spirit.—New York State Journal of Medicine.

... "It is lamentable that the physicians of the United States, who constitute the most highly educated professional group of any country, fail so miserably in the exercise of citizenship. James Bryce listed as hindrances to citizenship 'indolence, private self interest, and party spirit.' Inflexible party spirit, which sees no virtue in those who have other affiliations, is essentially obstructive. Private self interest, which denies any generous inquiry into the reasonableness of other people's thinking, shuts the door in the face of progress. Indolence, disinterest, disinclination to help oneself, and avoidance of responsibility, failure to support those who are striving for the common good, are hindrances to citizenship. Membership in the medical profession does not excuse any failure to function in the social or community life of the nation." . . .

(From "You Are the Policy Makers" by N. B. Van Etten, M.D., in the Milwaukee Medical Times, July, 1936).

## MEDICAL SCHOOL CLINIC

### DUODENAL OBSTRUCTION AND ACUTE PANCREATITIS AFTER PASSING GALLSTONE THROUGH CHOLECYSTO-DUODENAL FISTULA

MAURICE A. WALKER, M.D.,\*

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and

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An obese white woman, aged fifty-four, was admitted to Bethany Hospital on May 11, 1936, because of pain in the epigastrium and vomiting. The attack had begun at 4 a. m. on May 10, with pain in the right upper abdomen. She had had similar typical attacks of gallstone colic occasionally for twenty years. After morphine was administered hypodermically, the pain ceased until 8 p. m. When it recurred, the distress was no longer a knife-like pain in the right upper quadrant. Instead, there were severe paroxysms of cramps in the middle of the epigastrium. Vomiting occurred as each paroxysm reached its climax, after which her pain was somewhat relieved for a time. This condition continued throughout the night.

When examined by us at the hospital on the following morning, she still complained of cramp-like pain in the epigastrium. She occasionally vomited large quantities of watery fluid. Her tongue was dry. Her abdomen was slightly distended, but there was not much rigidity or localized tenderness. Her temperature was 98.6 F.; pulse rate, eighty; and respiratory rate, twenty. The urine was concentrated, but otherwise normal. The concentration of hemoglobin was ninety-three per cent; erythrocytes, 5,830,000; leukocytes, 11,250; and differential count, eighty-one per cent polymorphonuclears, nineteen per cent lymphocytes.

A diagnosis was made of pylorospasm secondary to disease of the biliary tract, with dehydration from vomiting. Fluids were infused intravenously. A suction tube was inserted through the nose into the stomach. Dilaudid

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and atropine were administered hypodermically.

She rested comfortably throughout that day. In the middle of that night, however, severe and continuous epigastric pain recurred and she again began to vomit. By morning she was cyanotic, there was rigidity of the upper abdomen, and her pulse was weak and thready. The concentration of hemoglobin was 114 per cent; erythrocytes, 6,970,000; and leukocytes, 6,900. The value for blood amylase was twelve units in each cubic centimeter (normal, four to eight units).

Because of the rapidly progressive course, associated with shock, rigidity of the upper abdomen, and elevation of blood amylase, a diagnosis of acute pancreatitis was made. Her pulse rate increased to 134, her temperature rose to 102 F., she became more cyanotic, and her abdomen became distended. She died at 3 p. m. on May 12, 1936.

Necropsy was done thirty minutes after death. The peritoneal cavity contained a small quantity of free fluid in which were some globules of fat. In the ileum ninety centimeters above the ileo-cecal valve was a large freely movable gallstone, four by three by three centimeters. The liver, duodenum, gallbladder, and parietal peritoneum were involved in fibrous adhesions which had also obliterated the foramen of Winslow. A fistulous tract from the gallbladder opened into the duodenum nine centimeters below the pylorus. A few small pigmented faceted calculi lay in the neck of the gallbladder and cystic duct. The major pancreatic duct (of Wirsung) joined the common bile duct just above the ampulla. Fat necrosis was present on the anterior surface of the pancreas.

#### COMMENT

A large gallstone had, by pressure necrosis, perforated the wall of the gallbladder and made a fistula into the duodenum. This has been the usual finding in other cases reported in which a large solitary gallstone caused intestinal obstruction. The symptoms of pyloric obstruction presumably were caused while the gallstone was lying in the duodenum. Acute pancreatitis may have resulted simply from obstruction of the ampulla by pressure while this calculus was in the duodenum, or from regurgitation into the joined bile and pancreatic ducts through the cholecysto-duodenal fistula. With the help of the test for blood

amylase, the diagnosis of acute pancreatitis was made before necropsy, although the symptoms were modified by the closed foramen of Winslow. Concentration of the blood was probably a result of shock as well as dehydration from vomiting.

After the pain of the usual gallstone colic has been relieved by morphine, it is often too easy to advise the patient to wait and see if further attacks occur. This case illustrates catastrophic complications which furnish an excellent argument in favor of surgical intervention early in the course of gallbladder disease.

### LABORATORY AIDS IN HYPOTHYROIDISM

C. A. HELLWIG, M.D.\*

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#### 1. BASAL METABOLISM

"In determining the basal metabolic rate, we are relying on single tests, although we know that a single reading is of no value whatsoever. Our readings are uniformly too high and are in accord neither with the clinical nor the pathological picture. Our environment is all wrong for the making of a test in which the first essential is mental and physical rest. A preliminary period of rest is impossible". This frank confession of failure comes from a well known medical center. While thousands of machines have been spread throughout the country, many surgeons have lost all confidence in the basal metabolism. Careless technique in obtaining basal data and lack of knowledge of the fundamentals of metabolism are the principal reasons.

The metabolism laboratory should be managed by a physician who has made some special study of metabolism and who is familiar with the technique himself. Technicians without medical training can scarcely be blamed, if they get far off the track. Basal metabolism tests require more than technical skill.

It can be safely stated that the test at present is used more often than necessary. It should be employed only when there are definite indications. In frank cases of myxedema, basal metabolism tests are not required for diagnosis, they may, however, be valuable in treat-

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ment. The dosage of thyroid extract can be determined more readily when controlled by basal tests. The patient's basal rate should be checked after an apparent cure for a considerable time.

The management of the patient is of greatest importance to obtain a useful reading. A thoughtless remark that the basal metabolism will tell whether or not an operation is necessary, may spoil the whole test and give a rate fifty per cent too high. Perfect cooperation of the patient is essential. The patient must completely relax for at least one-half hour before the test. The room should be quiet and home-like. Visitors must be excluded. There must not be any coming and going during the test.

If the patient has not had previous training, two or three tests will be necessary. In every case, at least two satisfactory periods of six minutes each must be secured. If the results of these different tests do not check within five per cent, the test must be repeated one or two days later. All questionable results must be discarded. The kymographic curve should show a regular and gradually declining swing. In calculating, it is a good plan to have the results expressed according to two different standards, as this will guard against possible arithmetical errors.

The variation in results obtained when different standards are employed is negligible for adults, but considerable for young individuals. Apparently, the basal metabolic rate is different in different parts of the country. Any standard adopted for use must be corrected for the community in which it is to be used. In Wichita, I found in cooperation with Dr. Frances H. Schiltz that normal college students and nurses have a basal metabolic rate almost ten per cent below the Harris-Benedict standards. Every metabolism laboratory should have a list of normal controls.

Most difficult will be the interpretation of readings fifteen to twenty per cent below the standard. In these doubtful cases where even the most experienced physician would appreciate an objective finding, the basal metabolic rate is least reliable. While in Crile's Clinic all minus metabolic rates are regarded as suspicious of hypothyroidism, Means and Lerman believe that most patients with rates above minus twenty per cent do not have hypofunction of the thyroid. They doubt the existence of borderline types of hypothyroidism. There seems to be many normal people

having rates as low as minus twenty per cent. The management of these cases is difficult. As a rule, thyroid therapy should be tried and the few cases in which clinical symptoms and basal metabolism improve, may be classified as hypothyroid.

## 2. BIOCHEMISTRY

It is unfortunate that it is not possible to measure the thyroid secretion directly. Curtis and others believe that the content of iodine in the blood is a most valuable measure of thyroid function. However, the difficulties of iodine determination on small samples of blood are formidable and the microchemical iodine tests are at the present beyond the province of the clinical laboratory. The number of specialists who are able to carry out iodine determination on few c.c. of blood with sufficient exactness is probably very small.

**Creatin.**—In children with hypothyroidism creatin is absent from the urine. Beumer and Isecke found that the administration of thyroid substance to such children results in a pronounced creatinuria. According to Shorr, Richardson and Manfield, in adults with myxedema a creatinuria promptly occurs following thyroid administration, even before significant changes in basal metabolism are noticed.

This unusual sensitivity of the creatin metabolism in myxedematous patients to small doses of thyroid substance promises to offer a valuable diagnostic criterion in doubtful cases.

**Lipids.**—Chamberlain, Jacobs and Butler recommend the determination of the total blood fat by the lipocrit method, as diagnostic aid in thyroid diseases. The total blood fat was consistently elevated above the normal (700 mg. per 100 c.c. of blood) in hypothyroidism. Epstein and Lande found that blood cholesterol is low in hyperthyroidism and high in myxedema. According to Hurxthal, there is a reciprocal relationship between the basal metabolic rate and the level of blood cholesterol. An examination of his data reveals however, that with a basal rate between 0 and -10, cholesterol values were from 97 to 250 mg. while basal rates between plus 60 and 70, showed cholesterol values from 96 to 199 mg. In a series of 145 patients, L. C. McGee found, likewise, no correlation between cholesterol level and metabolic rate. In cases diagnosed as hypothyroidism, the blood cholesterol was increased in only two of eight patients. I agree

with McGee's opinion that the factors affecting circulating cholesterol are too numerous for a single estimation of plasma cholesterol to be of great significance in the diagnosis of thyroid disorders.

### 3. PHASE ANGLE (BODY RESISTANCE TO ELECTRIC CURRENT)

Interest in the relationship between the electrical impedance or phase angle of the human body and thyroid function has been prompted by the recent work which Brazier has reported in England. An expensive apparatus is being offered for sale in England as a diagnostic instrument for thyroid diseases. Since impedance values are little affected by food, activity, menstrual cycle and so forth, it appeared that this instrument might offer decided advantages over metabolimeters. According to Horton and others, the work of Brazier is open to criticism from two points of view; the first being that the values obtained in normal individuals are subject to greater variation than Brazier has indicated and, in the second place, while there is a certain correlation between the basal metabolic rate and the phase angle, there are too many instances in which the two values do not agree.

### CONCLUSIONS

Except the creatin tolerance test which may be even more sensitive than the basal metabolism, blood chemistry does not offer at the present any diagnostic aids which can replace the determination of the basal metabolism. The measurement of the impedance angle does not seem to be of much help either.

The basal metabolic rate, obtained carefully and interpreted critically, is still today the most valuable aid which the laboratory can offer, in diseases of the thyroid.

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"As physicians practicing modern medicine, we should use every means that presents itself to further the preventive side of practice. One thing that might help is to advise patients coming in with vague or minor complaints to have a thorough examination. This can not rightfully be called a periodic health examination, but the same form can be used and the patient told of the importance of a similar examination some time in the future—the interval depending on the case and individual. Some of these patients will have a periodic health examination later—especially if defects were discovered of which they knew nothing."—Bulletin of the Columbus Academy of Medicine.

## CONSTITUTION AND BY-LAWS

### ACT OF INCORPORATION

#### AN ACT TO INCORPORATE THE KANSAS MEDICAL SOCIETY

Be it enacted by the Governor and Legislative Assembly of the Territory of Kansas:

Section 1. Amory Huunting, S. B. Prentiss, J. P. Root, A. Fuller, C. F. Kobb, J. W. Robinson, J. B. Wheeler, L. C. Tolles, S. C. Harrington, A. Danford, C. E. Minor, J. B. Woodward, W. Madison, J. H. Phelps, O. Brown, Charles Robinson, M. F. Holladay, H. J. Canniff, A. J. Ritchie, M. Baily, J. M. Pelot, H. H. Beals, J. G. Blunt, T. Linsey, G. W. Beaumont, J. Leigh, A. Newman, H. Harttmann, Wm. Graham, and their associates and successors, who shall be elected to membership as hereinafter provided, are hereby constituted a body corporate and politic by the name of The Kansas Medical Society, and shall have perpetual succession forever. Said Society may have a common seal, and change or alter the same at pleasure.

Sec. 2. That members of said Society, in their corporate capacity, may elect such officers as they shall judge necessary for its government and the management of its affairs, determine the name, power, duty and term of office of each; also the time and manner of such elections.

Sec. 3. Said Society, by and in their corporate name, may have all the rights, privileges and powers of a natural person in law and equity.

Sec. 4. Said Society may elect such persons to membership as they shall judge proper, and shall have power to expel, suspend or disfranchise the same, as members, from all the rights and privileges of the Society; but such expulsion, suspension or disfranchisement shall be by a vote of two-thirds of all the members present at a regular meeting of said Society, of which due notice shall have been given.

Sec. 5. Said Society shall have full power to make and enforce by-laws, and impose and collect at law any reasonable fines, not exceeding fifty dollars, as may be provided in said by-laws, for any and every violation or infraction thereof.

Sec. 6. Said Society shall issue certificates of membership to all its members, under such regulations as its by-laws may prescribe, and may also grant licenses to all respectable physicians, non-graduates, who shall, on examination, be found qualified for the practice of medicine and surgery, or either, to practice those branches for which they are found qualified.

Sec. 7. Any three members of said Society may organize county or auxiliary societies in any county of this Territory; and said auxiliary society, when so organized, shall have all the powers and privileges, in the corporate name which they may adopt, that are conferred by this act upon The Kansas Medical Society; and the officers of said auxiliary societies shall be honorary members of The Kansas Medical Society.

Sec. 8. A meeting of the incorporators, or a part thereof, shall be held in Lawrence, on February 10, A. D. 1859, for the purpose of electing the first officers and completing the organization.



Sec. 9. This act to take effect and be in force from and after its passage.

A. LARZELERE,

Speaker of the House of Representatives.

C. W. BABCOCK,

President of the Council.

Approved February 10, 1859.

S. MEDARY, Governor.

## CONSTITUTION

### Article I.—Name of this Society.

The name and title of this organization shall be The Kansas Medical Society.

### Article II.—Purposes of this Society.

The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the state of Kansas, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education; to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; to enlighten and direct public opinion in regard to the great problems of state medicine so that the medical profession shall become more capable and honorable within itself and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life.

### Article III.—Component Societies.

The component societies shall be those county medical societies or multi-county medical societies which hold charters from this Society.

### Article IV.—Composition of this Society.

Section 1. This Society shall consist of officers, Councilors, delegates, and members.

Sec. 2. The officers of this Society shall be a President, a President-Elect, a first Vice President, a second Vice President, a Secretary, and a Treasurer who shall be elected by the House of Delegates of this Society for terms of office as are hereinafter provided.

Sec. 3. The Councilors shall be not less than twelve in number who shall be elected in accordance with this Constitution and By-Laws for terms of office as are herein-after provided.

Sec. 4. The delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates.

Sec. 5. The members of this Society shall be the members in good standing of the component societies, the members in good standing of other societies approved by the Council of this Society, and the honorary members who are elected as provided by the By-Laws.

Sec. 6. Any distinguished physician not a resident of this state, who is a member of his own state medical society, may become a guest of this Society during any annual session upon invitation of an officer, and shall be accorded the privilege of participating in all of the scientific work of that session.

### Article V.—Councilor Districts.

Each Councilor District shall comprise those counties specified by the By-Laws.

### Article VI.—Council.

Section 1. The Council shall consist of one Councilor from each Councilor District, and in addition the President, the President-Elect, the Secretary, and the Treasurer, as ex-officio members.

Sec. 2. The ex-officio members of the Council shall have the same voting privileges as the duly elected Councilors, but shall have no jurisdictional rights in the Councilor Districts.

Sec. 3. The duties of the Council shall be those defined by the By-Laws.

Sec. 4. The President shall serve as the presiding officer of the Council.

### Article VII.—House of Delegates.

Section 1. The House of Delegates shall be the primary legislative and governing body of this Society, and shall consist of the duly elected delegates, and the officers, Councilors, and past-Presidents of this Society.

Sec. 2. The duties of the House of Delegates shall be those defined by the By-Laws.

Sec. 3. The President shall serve as the presiding officer of the House of Delegates.

### Article VIII.—District Societies.

The House of Delegates may provide for the organization of such district societies as will promote the best interests of the medical profession: Provided, that each district society shall be composed exclusively of members of component societies within that Councilor District.

### Article IX.—Annual Sessions.

Section 1. This Society shall hold annual sessions which shall be open to all registered members and guests, and during which there shall be held daily scientific meetings.

Sec. 2. The time and place for each annual session shall be fixed by the Council.

### Article X.—Terms of Office and Elections.

Section 1. The term of office of the President shall be for one year, and shall commence at the close of the annual session following the annual session of his election as President-Elect. The term of office of the President-Elect shall be for one year, shall commence at the close of the annual session of his election, and shall continue until his installation as President at the close of the following annual session. The terms of office of the first Vice President, the second Vice President, the Secretary, and the Treasurer shall be for one year each, shall commence at the close of the annual session of their election, and shall continue until the close of the following annual session. The terms of office of the Councilors shall be for three years each and shall commence at the close of the annual session of their election.

Sec. 2. The officers shall be elected by the House of Delegates on the morning of the last day of each annual session in the manner provided by the By-Laws.

Sec. 3. The election to fill expired terms of Councilors shall likewise be held on the morning of the last day of each annual session. All Councilors shall be elected by a majority vote of a caucus of the delegates present at that meeting of the House of Delegates from the component societies within the Councilor District each Councilor-elect is to represent: Provided, that in the event of death, resignation, or removal of any Councilor, the Council may appoint a successor to serve until the vacancy is filled at the next annual session. No Councilor shall be eligible to serve for more than two consecutive terms. One third of the Councilors shall be elected each year.

Sec. 4. No person shall be elected as an officer or Councilor who is not in attendance at the annual session of his nomination, or who has not been a member of this Society for at least the two preceding years.

Sec. 5. All officers and Councilors shall serve until their successors have been duly elected and have assumed the duties of their offices.

#### Article XI.—Defense Board.

Section 1. The Council shall elect and supervise the activities of a Defense Board composed of three members. The terms of office for its members shall be for three years each, and one-third shall be elected each year.

Sec. 2. The Council shall elect one of these members to serve as chairman of the Defense Board.

Sec. 3. The Defense Board shall perform the duties provided by the By-Laws.

#### Article XII.—Editorial Board.

Section 1. The Council shall elect and supervise the activities of an Editorial Board composed of five members. The terms of office for its members after the first election shall be for three years each. At the first election one member shall be elected for a term of one year, two for a term of two years, and two for a term of three years.

Sec. 2. The House of Delegates shall elect one of these members to serve as Editor of THE JOURNAL OF THE KANSAS MEDICAL SOCIETY and as chairman of the Editorial Board.

Sec. 3. The Editorial Board shall perform the duties provided by the By-Laws.

#### Article XIII.—Funds and Expenses.

Funds of this Society shall be raised by an equal and annual per capita assessment on each component society. The amount of assessment shall be established in the manner provided by the By-Laws. Funds may also be derived by voluntary contributions and bequests, by income from this Society's publications, and in any other manner approved by the House of Delegates. Funds may be appropriated by the House of Delegates to defray the expenses of this Society, and for such other purposes as will promote the welfare of the medical profession: Provided, that all resolutions appropriating funds must be referred to the Council before action is taken thereon to insure conformity with the official budget.

#### Article XIV.—Referendum.

Section 1. A general meeting of this Society may, by a two-thirds vote of the members present, order a general referendum on any question pending before the House of Delegates. When so ordered the House of Delegates shall submit such question to the members of this Society who may vote by mail or in person, and if the members voting shall comprise a majority of all the members of this Society, a majority vote shall determine the question and be binding upon the House of Delegates.

Sec. 2. The House of Delegates may, by a two-thirds vote of its members, submit any question before it to a general referendum in the manner provided in the preceding section, and the result shall be binding upon the House of Delegates.

#### Article XV.—Impeachment.

Section 1. Any officer or Councilor of this Society may be impeached and removed from office upon recommendation by the Council, and subsequent confirmation by a two-thirds majority of the House of Delegates.

Sec. 2. All charges for impeachment shall be directed

to the Council, shall be made in writing, and shall be signed by at least ten members who thereby agree to substantiate their statements with proof. If the Council after a diligent and careful investigation finds just and sufficient cause for removal of a particular officer or Councilor, it shall upon fifteen days notice to the accused present its findings and recommendation at a regular or special meeting of the House of Delegates. The House of Delegates shall then permit the accused to present evidence and witnesses in his own behalf, and thereafter shall take final action.

Sec. 3. Successors for the unexpired terms of impeached officers or Councilors shall be elected by the House of Delegates in accordance with this Constitution and By-Laws.

#### Article XVI.—Seal.

Section 1. The following insignia shall be the official seal of this Society:

Sec. 2. The official seal shall at all times remain in the custody of the Secretary.

#### Article XVII.—Amendments.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates present at any annual session: Provided, that such amendment shall have been presented to the House of Delegates at the previous annual session, or that it shall have been recommended by the Council and published twice during the year in THE JOURNAL OF THE KANSAS MEDICAL SOCIETY, or that it shall have been sent officially to each component society at least two months before the meeting at which final action is to be taken.

### BY-LAWS

#### Chapter I.—Membership.

Section 1. The name of a physician appearing on the properly certified roster of members of a component society which has paid the full amount of its annual assessment shall be prima facie evidence of membership in this Society.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of the proceedings until he has been relieved of such disability.

Sec. 3. Every member attending an annual session shall enter his name in the official registration book, and shall indicate the component society of which he is a member. When his right to membership has been verified by reference to the roster of his component society, he shall receive a badge which shall be evidence of his right to participate in all of the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Sec. 4. Members of this Society may be enrolled as honorary members upon the certified recommendation of the component societies to which they belong. Such recommendation shall be based upon years of faithful service in the medical profession, or upon other grounds acceptable to the Council. Honorary members shall be entitled to all of the benefits and privileges of active members, but shall be exempt from the payment of assessments.



## Chapter II.—Assessments.

The amount of the annual assessment of this Society shall be ten dollars per member, and such assessment shall be levied against and paid by the component societies in the manner provided by this Constitution and By-Laws.

## Chapter III.—Annual and Special Sessions.

Section 1. This Society shall hold an annual session at such time and place as has been fixed at the preceding annual session by the Council: Provided, that the time and place of an annual session may be changed, for good and sufficient reason, by the President upon approval of the Council. In that event, due notice of the change shall be forwarded to each component society as long as possible before the date selected by the Council at the preceding annual session, and not less than three weeks before the new date selected.

Sec. 2. Special meetings of either this Society or the House of Delegates may be called by the President upon approval by the Council.

## Chapter IV.—General Meetings and Sections.

Section 1. The scientific programs at the annual sessions may be divided into general meetings and sections as is deemed advisable by the Committee on Scientific Work. All registered members may attend and participate in the proceedings and discussions of the general meetings and the sections. The general meetings and sections of this Society shall be devoted to scientific work together with such reports and announcements of importance to the general body as may come from the House of Delegates or the Council. The general meetings shall be presided over by the President or his designated representatives. The sections shall be presided over by their respective officers, and the officers thereof shall be elected by the members of the several sections at the close of each annual session and shall serve for terms of one year each.

Sec. 2. The members attending a general or section meeting may recommend to the House of Delegates the appointment of committees or commissions for scientific investigations of special interest and importance to the profession and the public.

Sec. 3. All resolutions and memorials of a general meeting or section intended to be issued in the name of this Society must be referred to the Council not later than the time set for its last meeting during an annual session, and shall have its approval before being issued or becoming effective.

Sec. 4. The order of exercises, papers and discussions at a general or section meeting shall be followed exactly as fixed by the Committee on Scientific Work except when otherwise ordered by a two-thirds vote of the members present.

Sec. 5. A definite time shall be designated by the Committee on Scientific Work for the annual address of the President.

Sec. 6. Discussion of addresses of the President and guest speakers shall be optional with those speakers. Opening discussions of papers appearing upon the program shall be limited to ten minutes each, and in the general discussion following no member shall occupy more than five minutes of time, nor speak on the same subject more than once, except the author who shall be privileged to close the discussion. The enforcement of these provisions shall be the duty of the presiding officer.

Sec. 7. Any paper previously read before this or any other Society, or published, may be excluded from the

program at the discretion of the Committee on Scientific Work.

Sec. 8. Every paper read before this Society shall become its exclusive property, and shall be deposited with the presiding officer of the meeting immediately upon the conclusion of its reading.

Sec. 9. Any member of this Society whose name shall appear on the program of an annual session as a speaker, and who shall fail to present his essay without a good and sufficient reason given prior to the time of the annual session, shall be declined a place on the program at the next annual session.

## Chapter V.—House of Delegates.

Section 1. The House of Delegates shall meet on the first and last days of each annual session. It may adjourn from time to time as may be necessary to complete its business: Provided, that its hours shall conflict as little as possible with the general or section meetings.

Sec. 2. No person shall serve as a member of the House of Delegates unless he has resided and practiced in this state, has been a member in good standing of this Society for at least the two preceding years, and has been a member of the component society which he represents for at least one year immediately preceding.

Sec. 3. Each component society shall be entitled to send to the House of Delegates each year one duly qualified delegate for every twenty members, and one duly qualified delegate for each major fraction thereof; provided, that each component society which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to at least one duly qualified delegate. It shall be the duty of the secretary of each component society to send to the Executive Secretary of this Society a list of the delegates of that society at least ten days prior to each annual sessions.

Sec. 4. In the event an elected delegate shall find it impossible to attend an annual or special session of the House of Delegates, he shall appoint an alternate to attend and serve in his place: Provided, that such alternate shall qualify himself to the Committee on Credentials. In the event a particular component society is not represented by either a delegate or alternate at a meeting of the House of Delegates, that body by majority vote may elect a member of that component society to serve as a delegate for that meeting.

Sec. 5. A delegate or his alternate, accepted and seated, shall serve without substitution throughout the annual session or other meetings of the House of Delegates unless a substitution is consented to by the Committee on Credentials. Each delegate shall be entitled to only one vote, and shall represent the component society through which he pays his assessment, and no other. No representation shall be accorded a component society whose delegates or alternates are absent, unless the House of Delegates shall choose to elect a delegate therefor in the manner provided by these By-Laws and no proxies shall be recognized.

Sec. 6. Twenty per cent of the delegates or their alternates shall constitute a quorum of the House of Delegates.

Sec. 7. The following shall be the official order of business of the House of Delegates, unless otherwise ordered by a two-thirds vote of the delegates present:

- Call to order by the President
- Report of the Committee on Credentials
- Calling of the roll
- Reading of the minutes
- Reports of the officers

Reports of the Councilors  
 Report of the Defense Board  
 Report of the Editorial Board  
 Reports of the Standing Committees  
 Reports of the Special Committees  
 Reports of the Reference Committees  
 Unfinished Business  
 New Business  
 Adjournment

The official order of business shall be strictly followed except on the morning of the last day of each annual session when the election of officers, Councilors, and other representatives shall be the last order of business of that meeting of the House of Delegates.

Sec. 8. No new business may be introduced at the meeting of the House of Delegates on the last day of an annual session except by consent of a two-thirds vote of all delegates seated at that annual session, and such new business shall require a two-thirds majority vote of all delegates for final action.

(Continued in January Issue)

### SURGICAL TREATMENT OF INJURIES TO PERIPHERAL NERVES

(Continued from Page 501)

toma may deflect many of the outgrowing new axons. Strict asepsis and hemostasis must be maintained to secure the best results.

If end-to-end approximation has been accomplished with some tension on the nerve ends, it is extremely important that the extremity be held flexed or adducted by a brace for twelve weeks to prevent tearing of the suture line. After the first three postoperative weeks the extremity can be lifted out of the brace for daily massage but at no time should it be allowed to extend and to place undue tension on the suture line. After eight weeks, when the anastomosis has become secure, the extension should be increased each day so that by the twelfth week it will have reached full range. The brace should be worn for the full twelve weeks. In musculospiral paralysis it is necessary to protect the muscles from undue stretching by applying a cock-up splint for the palm of the hand and the wrist.

Electric treatment of a paralyzed extremity does not hasten regeneration. Galvanism may aid in more or less massaging the muscles. Once motor regeneration appears, faradic stimulation will intensify the feeble muscular contractions and encourage the patient and possibly it will aid in reviving muscular activity. Gentle massage and passive motion are the most effective treatment in maintaining muscle metabolism. Active motion and muscular training should be instituted as soon as signs of regeneration appear.

## NEWS NOTES

### IMPORTANT MEETING

Dr. Olin West, Secretary of the American Medical Association, will be the guest speaker at a meeting of the Sedgwick County Medical Society to be held on December 15, 7:30 p. m., at the Hotel Allis in Wichita.

All members who find it possible to attend are urged to do so.

### LEGISLATIVE PROGRAM

Dr. E. C. Duncan, Fredonia, Chairman of the Committee on Public Policy, has requested that the following statement by his committee be called to the attention of all members:

"To All Members of The Kansas Medical Society:

Another session of the legislature will soon convene, and will determine some important questions, affecting for good or evil, every member of this Society as well as every citizen of our state.

The officers of the State Society, the Committee on Public Policy, and our Executive Secretary have done all they can and now it is up to our fifteen hundred members.

We have made an 'estimate of the situation' and have advised you through bulletins to your local society; we now feel that each member should be contacted, and hope that your county society will have a meeting within the next fifteen days to consider the information contained in the several bulletins we have sent to your president and secretary.

A member of this committee or an officer of our State Society will be glad to meet with you if you so desire.

It is not necessary to dilate on the perils that beset us and every other citizen of our state. Your committee has not been content with their own opinion but has ranged far and wide in getting the viewpoint of many of our members not on the committee.

You all know the House of Delegates voted that we sponsor the basic science bill; this we have ready for introduction. But the bills we will introduce are not even half the battle—we must be on guard for pernicious legislation.

Eternal vigilance, not only by the committee and state officers, but by every member of the Society, is the price we must pay for a square deal.

May we have your full cooperation? We will let you know from time to time how you can be helpful.

Fraternally,

E. C. Duncan, M.D.,  
Chairman"

Additional suggestion is made that all county medical societies return their legislative questionnaires as soon as possible if they have not already done so, and that all make plans for extensive use of the basic science brochure which is to be published on approximately December 15.



## CULTS

Announcement has been received from the Attorney General that his office will issue an official opinion, relating to the practice of medicine and surgery by osteopaths, on approximately December 15. The opinion and several plans in that connection will be published in the January issue of *The Journal*.

The Attorney General has also announced that his office is now preparing a sizable number of informations against violators of the Medical Practice Act which are to be forwarded to various county attorneys in the near future with recommendation for prosecution.

## CANCER COMMITTEE APPOINTMENTS

Dr. H. L. Snyder, President, has announced the following new appointments to the Committee on Control of Cancer:

Dr. I. R. Burket, Ashland.  
Dr. A. M. McDermott, Ellis.  
Dr. M. J. Renner, Goodland.  
Dr. Alfred O'Donnell, Ellsworth.  
Dr. L. D. Johnson, Chanute.  
Dr. D. C. Malcolm, Onaga.

The additional appointments were made by reason of a desire to have at least one representative of the committee in each of the councilor districts.

## INSURANCE DIRECTORIES

Information has been received that several salesmen for insurance directories are at present working in the state.

Their general plan is to offer, upon payment of a fee, a listing of physicians names in a directory which is supposedly to be used by executives of insurance companies.

Since most of these directories are unofficial and of no value, a suggestion is made that all solicitors of this kind be referred to the central office if they do not bear a letter of endorsement from the Society.

## MOTHER'S MANUAL

The following bulletin concerning preparation of a new Kansas State Board of Health Mother's Manual was forwarded to the Society Committee on Maternal and Child Welfare on December 3:

"The Kansas State Board of Health plans to completely revise the Kansas Mother's Manual with which you are undoubtedly familiar, and following a conference between Dr. H. R. Ross, Director of the Maternal and Child Welfare Division of the Board of Health, and Dr. John L. Grove, an official request has been received by this office to have the Society Committee on Maternal and Child Welfare offer suggestions for changes and additions that should be made in the present content.

The plan outlined is for each member of the Committee to annotate any suggestions he is able to give in the enclosed copy of the manual, and to return same to this office. Dr. Ross will then attempt to embody these suggestions into a final draft, and thereafter the finished document will be presented at a meeting of the committee for further criticism.

We feel that this represents an important activity for the public and the profession, and thus if you would have time to consider the present manual from this standpoint, your assistance will be greatly appreciated. Likewise, Dr. Ross would like to have the annotated copies returned as soon as possible."

## COMMITTEE MEETINGS

The Committee on Venereal Disease held a meeting at the Hotel Kansan in Topeka on November 29. Foremost actions of the meeting were as follows: A decision that the committee shall issue a brochure on treatment of venereal diseases; arrangement for a series of professional symposiums on venereal diseases to be held in each of the councilor districts during the next six months; a recommendation to the Editorial Board that a section on venereal disease be included in *The Journal*; and establishment of a Society scientific information bureau on this subject. Lay educational work and several plans for treatment of indigent syphilitics were also discussed. In addition to Dr. Arthur D. Gray, Chairman, and other members of the committee, Dr. H. L. Snyder, President, and Dr. Robert H. Riedel, Head of the Division of Venereal Diseases of the Kansas State Board of Health, attended the meeting.

The Committee on Control of Tuberculosis met at the Hotel Kansan in Topeka on November 29. Members present were Dr. H. L. Snyder, President; Dr. H. L. Chambers, Secretary; Dr. C. F. Taylor, Norton, Chairman; Dr. Clifton Hall, Topeka; Dr. Philip Cohn, Norton; Dr. H. H. Jones, Winfield; Dr. F. L. Loveland, Topeka, and Dr. C. H. Lerrigo, Topeka. A considerable portion of the meeting was devoted to discussion of a procedure for coordination of Kansas Tuberculosis and Health Association, Kansas State Board of Health, Kansas State Sanatorium, and the Society tuberculosis programs, and the following plan was unanimously adopted for recommendation to the county medical societies:

"In the interest of coordinating the activities of the various agencies of Kansas dealing with tuberculosis, and to promote greater efficiency in these activities, the following procedure is suggested and recommended by the Committee on Control of Tuberculosis.

I. LOCAL SPONSOR: The first step in coordination should be to employ the mutual understanding of the patient and the home doctor, and in turn the county medical organizations. To obtain this the local county medical organization should be designated as the local sponsor of tuberculosis programs.

II. ACTIVITIES OF LOCAL SPONSOR: The second step should be for the county medical organization (as local sponsor) to join and cooperate with all recognized tuberculosis agencies, both local and state, and by having their local Liason Committees meet with and arrange programs with these local groups.

III. ASSISTANCE TO LAY GROUPS: In recognition of the value of the lay groups interested in tuberculosis and the assistance to be obtained from them, the county medical organization should aid their programs in all ways possible. They should suggest and participate in the various programs of the local lay groups. In other words, the county

medical organization should assume leadership in the tuberculosis problem, and extend cooperation to all groups interested in this work. An immediate example of coordination possible is to offer assistance to the local seal drive that is now taking place, and to participate actively in this regard with the local tuberculosis associations.

IV. LOCAL PUBLICITY: Local publicity should be endorsed equally by the local medical organization and lay groups,—the newspapers, lecturers, posters, clinics and otherwise. Further from the standpoint of local publicity and to avoid misleading statements, it is suggested that the local medical organization approve before issue this publicity from a scientific standpoint. As a means for standardization of tuberculosis activity through sponsorship by the county medical organizations, it is suggested that the following formula be utilized in all releases of this kind: "Sponsored by..... County Medical Society in Conjunction with..... (Kansas Tuberculosis and Health Association, State Board of Health, Norton Sanatorium, County Tuberculosis Association, etc., as the case may be)".

It is hoped that the above suggestions, which are offered for consideration by the county medical organizations, will prove to be of assistance to these organizations in the development and handling of their tuberculosis projects. We believe that all county medical societies will be interested in knowing that the Kansas Tuberculosis and Health Association, the Kansas State Board of Health, and the State Sanatorium at Norton signified their intention at a meeting held on July 16 to coordinate activities and cooperate fully with the county medical societies in the furtherance of this program".

The committee also voted to issue an official endorsement of the present Christmas Seal campaign and approved a plan wherein a series of tuberculosis post-graduate meetings will be sponsored in each of the councilor districts during the next year.

A meeting of the Committee on Public Policy is to be held at the Hotel Lassen in Wichita on December 15 for further discussion of the Society's 1937 legislative program.

The Medical Economics Committee and its sub-committee on Social Security Act will hold a joint meeting in the near future to prepare legislative recommendations for medical problems involved in the Kansas Social Security enabling acts.

#### BOARD OF ADMINISTRATION

The Society has forwarded an official request to Governor-Elect Walter Huxman that a doctor of medicine be appointed on the State Board of Administration.

It is believed that a physician can be of material assistance in the handling of medical functions incidental to state institutions.

#### SEROLOGICAL TESTS

Senator Claude Hansen, Jamestown, has asked that the Society prepare an official opinion for him concerning the scientific accuracy of serological tests to determine the existence and degree of alcoholic intoxication.

If the process is dependable, Senator Hansen intends to introduce a bill at the next term of the legislature, requiring that automobile drivers involved in accidents shall submit to a test of this kind.

#### SOCIAL SECURITY AND PHYSICIANS

The following editorial taken from The Journal of the American Medical Association is reprinted by reason of its importance to all members:

##### "PHYSICIANS AND OLD AGE PENSION TAXES UNDER THE SOCIAL SECURITY ACT"

Preliminary procedures are under way to make effective the old age benefit provisions of the Social Security Act. The regulations that have been promulgated by the Bureau of Internal Revenue looking toward the assembly of the mass of detailed data with respect to the employers and employees from whom the taxes are to be collected are of immediate interest to physicians.

Each person who on November 16 was the employer of one or more persons, subject to the exceptions noted, must have reported that fact prior to November 21 to the postmaster from whose post office the employer obtained his office or business mail. He must also have made application on form SS-4 for the assignment of a number—an 'identification number' to be used for identification purposes in connection with the collection of taxes under the act. Physicians who were employers on the date named were required to comply with this requirement. If they failed to do so, they should now communicate with their local postmaster for instructions as to how to proceed to make the delayed application. A physician who became an employer after November 16 must also apply for an identification number within a period of thirty days after the relationship of employer and employee is established. This application, the regulations provide, must be made to the field office of the Social Security Board in the area in which the office of the physician is situated or, in the absence of such field office, to the Social Security Board at Washington, D. C.

Persons who were employees on November 24 are likewise required to obtain numbers, called 'account numbers', by filing application on form SS-5, on or before December 5, with the local postmaster. Persons becoming employees after November 24 must also file application for numbers thirty days after the employment begins. While physicians generally are considered, under the regulations, as independent contractors and consequently not subject to the taxes imposed on employees, if physicians are employed on a full time or part-time salary basis, they are apparently to be considered as employees. Such physicians must file application for 'account number' on form SS-5. As employees, they are subject to the tax on employees, and their employers must pay the employers' tax with respect to them.

Certain employments do not come within the old age benefit provisions of the Social Security Act. Among the exceptions are agricultural labor, domestic service in a private home, casual labor not in the course of the employer's trade or business, service performed by an individual who has



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attained the age of 65, service performed in the employ of the United States or of any state or subdivision or instrumentality of either, and service performed in the employ of a corporation, community chest, fund or foundation organized and operated exclusively for religious, charitable, scientific, literary or educational purposes, or for the prevention of cruelty to children or animals, no part of the net earnings of which inures to the benefit of any private shareholder or individual. Physicians who employ only persons embraced within these excepted employments or who are themselves engaged in such excepted services, are not required to make application for identification or account numbers.

Employers' and employees' taxes will be collected by means of monthly returns to be filed by employers, who not only must pay to the local collector of internal revenue the tax imposed on employers, but also must deduct from the wages of their employees the employee's tax and transmit that also to the collector. The first returns will be due not later than March 1, 1937, covering wages paid for services rendered during the month of January. The regulations that have been promulgated cover in detail the records that must be kept by employers, the method of executing returns, the information they must contain and other matters relating to the tax. Physicians should promptly familiarize themselves with all the requirements, so that as much confusion as possible may be avoided. The Journal will from time to time offer suggestions to aid physicians in meeting the requirements of the act".

It can be said as a means of summary that any physician who employs one or more persons is an "employer" insofar as old age benefits under the Social Security Act are concerned and that he is thereby subject to the taxing provision of title 8 to the Act; that physicians are usually not considered to be "employees" under this portion of the Act except when they are employed full or part time on a salary basis; that "employers" taxes for old age benefits consist of one per cent of the first \$3,000.00 of wages paid each year; that these taxes are due and payable on or after January 1, 1937; and that physicians are not affected by the unemployment compensation portions of the Act unless they employ eight or more persons.

#### SECRETARIES MEETING

A program of unusual interest was presented at the Annual Conference of Secretaries and Editors held in Chicago on November 16 and 17:

Mr. J. W. Holloway, Bureau of Legal Medicine and Legislation, American Medical Association, read a paper on basic science laws which included information about the effectiveness of these measures for public protection, statistics concerning passage and failure by applicants from the different professions and recommended provisions for inclusion in these laws.

Dr. L. Fernald Foster, Secretary of the Michigan State Medical Society, gave a detailed description of the Michigan Filter System which provides for coordination of effort by the county medical societies, probate judges, social service agencies, and the Crippled Children's Com-

mission in that state for handling of the crippled children problem.

Dr. Glenn Meyers, Los Angeles, California, discussed the Public Health League of California wherein physicians, dentists, nurses, hospitals, and pharmacists have established a joint organization for extension of public health and healing legislation.

Dr. Thomas Parran, Surgeon General, of the United States Public Health Service, gave a talk on the health functions of the Social Security Act which occasioned a great deal of interest and which is commended upon elsewhere in this issue of The Journal.

Miss Katherine F. Lenroot, Chief, Children's Bureau, United States Department of Labor, spoke upon the maternal and child welfare portions of the Social Security Act, outlined future plans in this regard, and stressed the need for leadership of the medical profession in the handling of these activities.

Dr. Richard M. Hewitt, Rochester, Minnesota, offered suggestions for the preparation of manuscripts and illustrations in connection with scientific articles.

Dr. Charles Gordon Heyd, President of the American Medical Association, and Mr. Thomas V. McDavitt, Bureau of Legal Medicine and Legislation, American Medical Association, spoke extensively on alleged malpractice claims, malpractice insurance, and methods used by state medical societies for assistance to members in this regard.

Dr. Thomas G. Hull, Director, Bureau of Exhibits, American Medical Association, offered suggestions for scientific exhibits at state meetings and described the scientific exhibit service available through the American Medical Association.

A dinner-meeting of the editors and secretaries was also held on the evening of November 16 wherein many items concerning publication of state journals were discussed.

Representatives who attended from Kansas were as follows: Dr. W. M. Mills, Editor, The Journal, Topeka; Dr. R. B. Stewart, Topeka; Dr. L. R. Pyle, Topeka. Mac F. Cahal, Wichita; and Clarence G. Munns, Topeka.

#### IMMUNIZATION PROGRAMS

In addition to the immunization programs mentioned last month the Ellis County Doctors Club, Riley County Medical Society, and Wabaunsee County Medical Society, are also sponsoring programs of this kind.

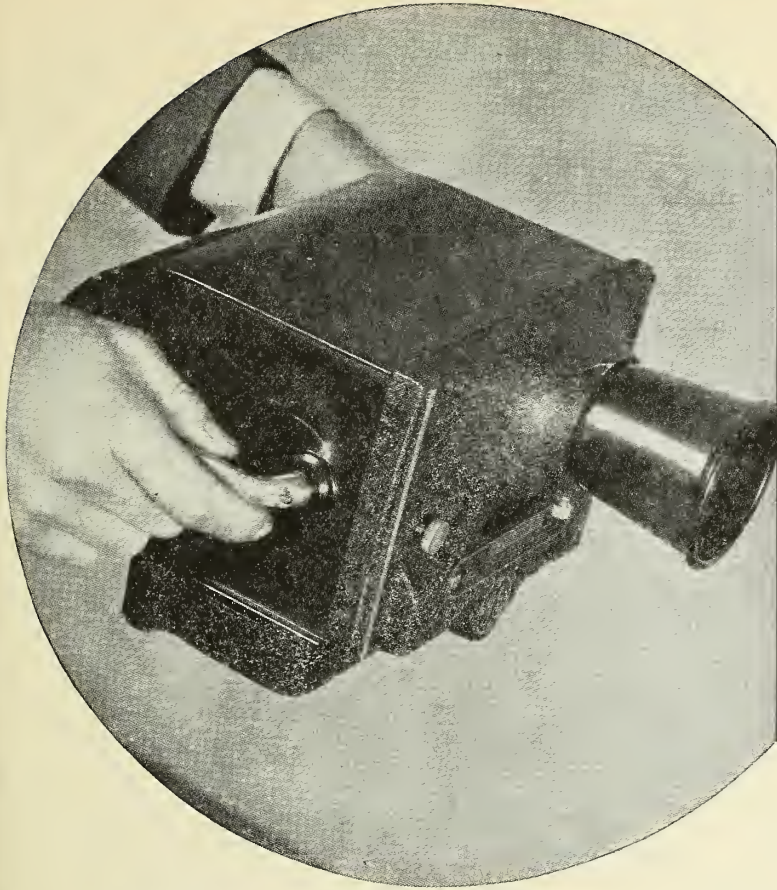
#### COUNTY SOCIETIES

The Anderson County Medical Society held a meeting in Garnett on October 22 with members from Franklin and Allen Counties as guests of the society. Dr. C. C. Nesselrode, Kansas City, spoke on "Diseases and Treatment of the Gallbladder and Biliary Tract".

Members of the Bourbon County Medical Society met in Fort Scott on November 16 with Dr. Walter Hogbrooke, Kansas City, Missouri, and Dr. Lindsey S. Milne, Kansas City, Missouri, as speakers. Their subjects, respectively, were "Chronic Gall Bladder Diseases" and "Treatment of Pneumonia".

The members of the Brown County Medical Society and Brown County Dental Society held a joint dinner-meeting in Hiawatha on October 30. Several subjects relating to malignant bone diseases were presented by





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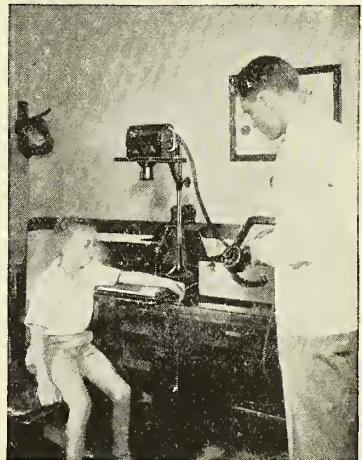
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Dr. H. J. Ravold, Dr. Jacob Kulowski, and Dr. Floyd Spencer, all of St. Joseph, Missouri.

Dr. E. H. Skinner, Kansas City, Missouri, presented a discussion of three books relating to early electrical knowledge, illustrating with lantern slides, at the November meeting of the Butler-Greenwood County Medical Society held in El Dorado.

Dr. M. E. Pusitz, Topeka, talked on "Fractures of the Spine" at a meeting of the Clay County Medical Society held in Clay Center on November 18.

The Cowley County Medical Society met in Arkansas City on November 19 with Dr. E. H. Clayton, Arkansas City, as speaker. His subject was "Tetanus".

The Crawford County Medical Society held a meeting in Pittsburg on October 29. The following speakers and their subjects appeared on the program: Dr. John F. Knight, Kansas City, Missouri, "The Choking Child"; Dr. Delon A. Williams, Kansas City, Missouri, "Methods of Gastro-Intestinal Diagnosis"; Dr. Marshall Hyde, Osawatomie, "The Treatment of Paresis"; and Dr. Ralph M. Fellows, Osawatomie, "Plans for a Mental Hygiene Clinic in Crawford County".

Approximately forty-five physicians attended the meeting of the Ford County Medical Society held in Dodge City on November 13. Dr. Galen Tice, Kansas City, Missouri, spoke on "Roentgen Study of Heart Disease" and Dr. Ralph Majors, Kansas City, Missouri, on "Discussion of Heart Disease".

A meeting of the Franklin County Medical Society was held in Ottawa on November 21. Foremost topic of discussion was the basis for renewal of the 1937 indigent medical contract of that society. Dr. H. L. Chambers, Lawrence; Dr. F. L. Loveland, Topeka; and Clarence G. Munns, Topeka, were guests at the meeting.

Dr. Frank C. Neff, Kansas City, Missouri, and Dr. George V. Herrman, Kansas City, Kansas, were the speakers at the Labette County Medical Society meeting held in Parsons on November 25. Their subjects were, respectively, "The Care of the Children by the General Practitioner", and "The Indications for Transfusion in Children". The Labette County Medical Society, in conjunction with the Labette County Tuberculosis and Health Association and the Kansas State Board of Health sponsored a tuberculin skin testing program in that county on December 1-4.

The McPherson County Medical Society met in McPherson on December 9. Members from Marion, Harvey, and Rice Counties were guests of the society. Clarence Munns, Executive Secretary, was a speaker. Discussions on various subjects relating to state legislation, and violation of the Medical Practice Act, were presented by different members.

The regular monthly meeting of the Marshall County Medical Society was held on November 19 in Marysville. Approximately fifteen members were present.

Dr. E. A. Pickens, Wichita, was the principal speaker at a meeting of the Meade-Seward County Medical Society held in Liberal on November 6.

The Montgomery County Medical Society met in Independence on November 20.

Dr. B. Y. Alvis, and Dr. William H. Olmsted, both of St. Louis, Missouri, were the speakers at a dinner-meeting of the Reno County Medical Society held in Hutchinson on December 4. Dr. Alvis discussed "The Use of Concentrated Epinephrine in Glaucoma, Iritis, and Related Conditions" and Dr. Olmsted talked on "Some Late Developments in the Treatment of Diabetes".

The Saline County Medical Society met in Salina on

November 19 with Dr. C. F. Taylor, Superintendent, State Sanatorium of Tuberculosis, Norton, and Dr. L. S. Nelson, Salina, as the principal speakers. Their topics were respectively: "The Diagnosis, Treatment, and Prognosis of Pulmonary Tuberculosis" and "Plastic Surgery of the Breast".

Two meetings of the Sedgwick County Medical Society were held on November 3 and 17 at the Allis Hotel in Wichita. At the November 3 meeting, Dr. M. W. Hall, Wichita, spoke on "Episiotomy"; Dr. C. T. Hinshaw, Wichita, discussed "Present Status of Preventive Pediatrics"; Dr. J. S. Reifsneider, Wichita, presented a paper on "The Safety Line in Acute Otitis Media"; Dr. A. E. Gardner, Wichita, talked on "Differential Diagnosis of Acute Abdominal Conditions"; and Dr. Wirt Warren, Wichita, spoke on "Treatment of Chronic Arthritis". Dr. F. D. McEwen, Wichita, and Dr. E. S. Edgerton, Wichita, were the speakers at the meeting on November 17 and their subjects were, respectively: "Cardiac Clinic", and "Malignancies of the Colon".

The Shawnee County Medical Society and the Shawnee County Dental Society held a joint dinner-meeting in Topeka on November 19. The dinner was preceded by golf matches at the Shawnee Country Club. At the annual meeting of the Shawnee County Medical Society held on December 7 at the Hotel Jayhawk in Topeka, Dr. Lyle S. Powell, Lawrence, presented a series of motion pictures taken on his recent trip to China and India entitled "World Travels in Pictures".

Dr. F. C. Cave, Oxford, was elected president of the Sumner County Medical Society at a meeting of that society held in Wellington on November 19. Other officers elected were as follows: Dr. Karl Voldeng, Wellington, vice president; Dr. J. M. McGrew, Wellington, secretary-treasurer; Dr. M. W. Barnes, Oxford, state meeting delegate; Dr. A. R. Hatcher, Wellington, alternate delegate.

Members of the Washington County Medical Society met in Washington on November 17, for a dinner-meeting.

Approximately sixty members attended a meeting of the Wyandotte County Medical Society held in Kansas City on November 17 with Dr. E. A. Hines, Jr., Mayo Clinic, Rochester, Minnesota, as the principal speaker. His subject was "Cold Pressor Test in Hypertension". At the December 1 meeting of the society the following speakers and their subjects were presented: Dr. H. R. Wahl, "Pathological Conference"; Dr. L. V. Hill, "Infections of the Foot"; and Dr. Fred Angle, "Coronary Disease". All of the speakers were of Kansas City.

## MEMBERS

Dr. J. T. Axtell, was reelected secretary of the Kansas Hospital Association at a state meeting of that group held in McPherson on October 31.

Dr. O. R. Brittain, Salina, attended a meeting of the Radiological Society of North America, held in Cincinnati, Ohio, on November 30 to December 4.

Dr. E. G. Brown, Topeka, is recovering from the injuries he received in a recent automobile accident and is expected to return to his office within the near future.

Dr. J. E. Hill, Conway Springs, has gone to New Orleans, Louisiana, where he will take a six weeks post-graduate course at the Tulane University of Louisiana Medical School.





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\**Proc. Soc. Exp. Biol. and Med.*, 1934, 32, 241-245  
*Laryngoscope*, Feb. 1935, Vol. XLV, No. 2, 149-154  
*N. Y. State Jour. Med.*, June 1935, Vol. 35, No. 11  
*Arch. Otolaryngology*, Mar. 1936, Vol. 23, No. 3, 306-309

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Dr. J. A. Milligan, Garnett, attended a meeting of the American Association of Railway Surgeons held in Chicago on November 5-7.

Dr. C. R. Nelson, Jamestown, has been appointed coroner for Cloud County to serve the unexpired term of the late Dr. H. E. Doty.

Dr. C. F. Taylor, Superintendent, of the State Sanatorium at Norton, will cooperate with the Butler-Greenwood County Medical Society in a tuberculosis clinic to be held at Eldorado on December 19. Dr. Taylor will also address that society on the night of the same day.

Mr. Mac F. Cahal, executive secretary of the Sedgwick County Medical Society, under the auspices of the bureau of health and public instruction of that society, is presenting a series of radio broadcasts over station KFJ at 7:15 p. m. on each Thursday.

### DEATH NOTICES

Dr. Elmer Butler, 74 years of age, died at the Santa Fe Hospital in Topeka on October 26. He was a resident of Quenemo. He was born in 1862 in Kansas and received his early training at the Fort Scott Normal School. He attended the Ohio Medical College at Cincinnati, and graduated from that school in 1889. He had practiced medicine in Kansas for forty-seven years, the last twenty-nine of which were spent in Quenemo. He served in the Spanish American War as a member of the Hospitals Corps. He was a member of the Osage County Medical Society.

Dr. Charles Thomas Crandell, 75 years of age, died in Winfield on October 28. He was a resident of Peru. He was born January 8, 1861, near Princeton, Kentucky, and moved to Eminence, Missouri, where he spent his childhood. He received his medical training at the St. Louis College of Physicians and Surgeons, St. Louis, Missouri, and graduated from there in 1897. He practiced in Birchtree, Missouri, for two years, and then moved to Niotaze, Kansas, practicing there for sixteen years. In 1915 he moved to Peru where he continued his practice until the time of his death. He was a member of the Chautauqua County Medical Society.

Dr. William F. Fee, a former councilor of the Society, died at his home in Meade on November 30. A complete obituary will be published in the January issue of The Journal.

Dr. Malcolm Newlon, 50 years of age, died at St. Johns Hospital in Salina on November 18. He was a resident of Lincoln. He was born in Lincoln on May 10, 1886, and attended grade school and high school in Lincoln. He received his medical training at the University Medical College of Kansas City where he graduated in 1910. He practiced in Downs for one year, moved to Vesper, and in 1912 established his offices in Lincoln where he continued his practice until the time of his death. He was the forty-seventh member of the Newlon family to become a physician. He was secretary of the Lincoln County Medical Society.

Dr. Frank O'Hara Miller, 61 years of age, died at his home in Wichita on November 10. He was born in Donalds, South Carolina, where he received his early education. He was a graduate of the Johnson B. Smith University and received his medical degree from the Louisville National Medical College, at Louisville, Kentucky,

in 1906. He practiced at Nicholasville, Kentucky, for a short time then moved to Hutchinson. He went to Wichita in 1909 and continued his practice there until his death. He was a member of the Sedgwick County Medical Society.

Dr. Charles S. Webster, 90 years of age, died at his home in White City on November 14. He had practiced medicine in White City for forty-three years. He was born in 1846 and received his medical training from the American University of Pennsylvania, Eclectic, at Philadelphia, and graduated in 1880. He was a former member of the Geary County Medical Society.

Dr. William D. Patterson, 76 years of age, died at his home in Marysville on December 3. He was born at Andes, New York, in 1860, and received his early education there. He graduated from the Ensworth Medical College of St. Joseph, Missouri, in 1891. He began practice at Clairmont, Missouri, and in 1898 moved to Home, Kansas. In 1905 he went to Marysville where he continued his practice until his death. He was a member of the Marshall County Medical Society.

## AUXILIARY

Edited by Mrs. W. G. Emery, Press Publicity Chairman

### PRESIDENT'S MESSAGE

Dear Auxiliary Members:

The week of November 16 was busy with Auxiliary work. The first secular day of that week found me in attendance at the Chicago meeting of the National Board, which was well attended. One gains not only information but enthusiasm, as well, from these national conferences.

November 20 I was very happy to entertain the Kansas Board of Directors at my home in Kansas City, a report of which Mrs. Emery gives in this column. The board is most grateful to Dr. E. J. Nodurft, Chairman of the Auxiliary Advisory Committee, and Mr. Clarence Munns, Executive Secretary of The Kansas Medical Society, who honored us with their presence and addresses.

When you read this the holiday season will be near at hand. May I extend to every one of our membership happiest Christmas Greetings and brightest wishes for a Happy and Prosperous New Year!

Mrs. L. B. Gloyne.

The mid-winter meeting of the Board of Directors of the Kansas Auxiliary was held at the beautiful new home of Mrs. L. B. Gloyne, State President, in Kansas City, November 20. Fifteen ladies were present, representing the active elements of the state organization.

Reports from state committee chairmen and county auxiliary presidents were encouraging and indicated a healthy condition and a progressive spirit throughout the state. Our president-hostess served a most delightful luncheon at which Dr. E. J. Nodurft, Auxiliary Advisory Chairman, and Mr. Clarence Munns, Executive Secretary of The Kansas Medical Society, were guests of honor.



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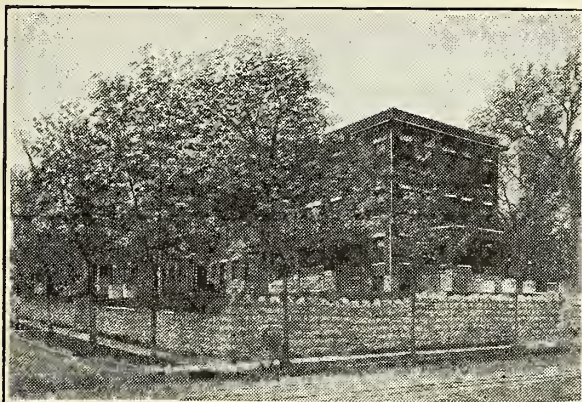
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After luncheon Mrs. Gloyne introduced Dr. Nodurft. who stressed the necessity of the Auxiliary giving every possible assistance to the medical society in their legislative fight for the adoption of a basic science law. Dr. Nodurft credited the Auxiliary with a reserve force sufficient to be the deciding factor in this struggle. He urged that the county auxiliaries immediately begin operations designed to influence legislation. He suggested that each county auxiliary hold a basic science meeting to which the state senator and state representatives of the respective districts be invited. Dr. Nodurft prophesied that if all county auxiliaries would assign one lady to each representative and five to each senator the basic science bill would become a law. Succeeding Dr. Nodurft, Mr. Munns was introduced.

Mr. Munns spoke about basic science laws, present plans for passage of a law of this kind in Kansas, and read the manuscript of the basic science brochure which is to be published by the Society in the near future.

The Wilson County Auxiliary's November meeting included an interesting educational program. An article from "Time" was read by Mrs. E. C. Duncan. A paper entitled "Quacks and Quackery" was presented by Mrs. E. C. Morgan. Mrs. A. C. Flack contributed a "Summation of Dr. Fishbein's Weekly Radio Talks". In addition, a beautiful memorial to Mrs. W. H. Ad-dington, a beloved member recently deceased, was given by Mrs. J. W. McGuire.

The Sedgwick County Auxiliary's Thanksgiving tea was a gala event at the home of Mrs. Charles Rombold, November 9, at 2:30 o'clock. Dr. Rene Gouldner addressed the ladies with a talk entitled "The Syphili-zation of Civilization", the first of a series of talks by doctors on medical subjects in their various fields. Coleman Ashe accompanied by Mary Fisher, pianist, furnished the musical program for the tea. This Auxil-iary, with the co-operation of the county health phy-sician and Red Cross Funds, has placed Hygeia in ninety county schools.

The Ford County Auxiliary met for a seven o'clock dinner November 13 in the pioneer room of the Lora Locke Hotel, where a short business session was fol-lowed by a social period. Ford County has placed twelve subscriptions to Hygeia in the schools and confi-dently expects to add to this total.

The Brown County Auxiliary has appointed a Hygeia Committee consisting of at least one member from each town in that county, which the Hygeia chairman characterizes as "an excellent idea".

Labette County, particularly active this year, spon-sored a Hygeia exhibit at the Tri-State Fair last summer, despite the heat. Much personal work is being done among various groups, as outlined in the Hygeia Hand-book. Club women, especially mothers clubs, are being interviewed. Profits from subscriptions will be used to supply P.T.A. presidents with Hygeia. Every news-paper in the county has promised to use the clip-sheet.

On October 29 the Labette County Auxiliary met at the home of Mrs. R. W. Urie. Dr. E. C. Duncan, Fredonia, the guest speaker, addressed the Auxiliary on

"Legislative Measures". Refreshments were served dur-ing the social hour and in the business period plans were made to meet November 25 in a joint dinner with the medical society at the state hospital.

Mrs. T. D. Blasdel, State Hygeia Chairman, presents the following plea for the most interesting and author-itative health magazine published for lay reading:

"Has your husband taken advantage of the Hygeia bargain offered him through December? He can subscribe for himself and send gifts to your friends for \$1.25 for each subscription. Please ask him to have his subscriptions credited to your county or the Kansas Auxiliary. It is a splendid time, too, to urge our friends to subscribe at the following prices: 1 gift subscription \$2.50; 2 gift subscription \$4.00; 3 gift subscription \$5.00; each additional gift \$1.25. Ask your Hygeia chairman to take out your commission for use in the Auxiliary. Our quota for Kansas this year is 242 subscriptions. We have 107 subscriptions. Can't we make it?"

Correspondents sending clippings are asked to specify the date of events described. Frequently newspapers fail to give the date, saying "a meeting was held last evening". With no date line this editor cannot be specific.

At the Board meeting every committee chairman com-plaind that many of their letters gained no replies. A committee chairman is too busy to send unnecessary letters. Courtesy, if nothing else, demands an acknow-ledge-ment, at least, of letters received.

Mrs. E. J. Nodurft, Exhibit Chairman, requests each county auxiliary to make a scrapbook containing a record of their meetings, entertainments and other activi-ties of their Auxiliary, members and doctors as a minimum exhibit. Additional exhibits are, of course, desired.

Because one mother out of 175 in the United States dies as a result of child birth the General Federation of Womens Clubs proposes a fight to lower our country's maternal death rate. The campaign is to be based on the following program, as outlined by the Federation's De-partment of Public Welfare Chairman, Mrs. Clarence Fraim:

- "1. Each club to find out, from the state, local or county health department, the maternal death rates for its own locality, and to compare its local with state average, over a period of two or three years.
2. To investigate the availability of prenatal health service in its locality.
3. To study the bearing of the economic con-ditions of its locality on the maternal health and death rates.
4. To find out, from local health officers, the local policy in handling borderline groups.
5. To co-operate with its state welfare depart-ment in finding ways and means to get funds for the delivery of all mothers.



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many due to negligence of the mothers themselves, or their families.

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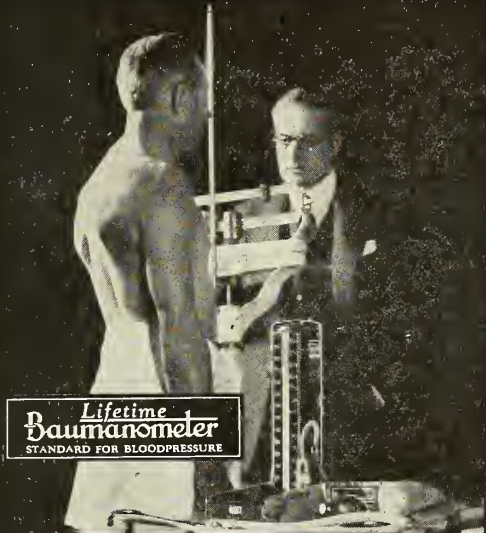
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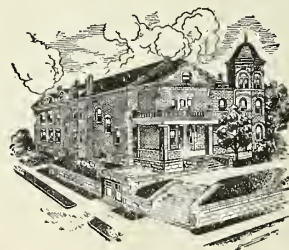
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